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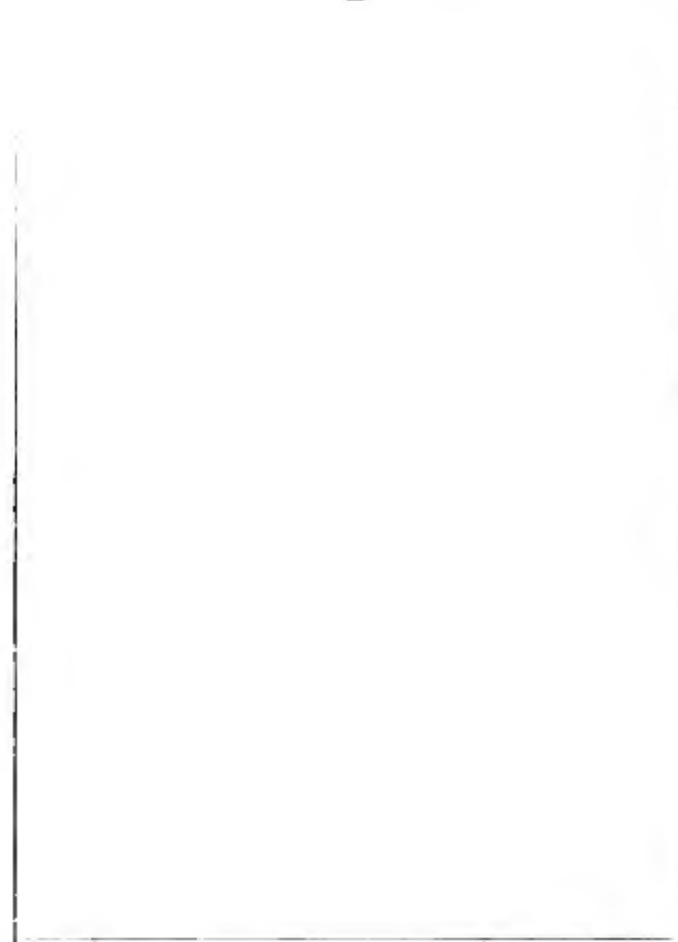
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Boston
THE FINANCE COMMISSION

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OF THE

CITY OF BOSTON

REPORTS AND COMMUNICATIONS

VOLUME VII.



CITY OF BOSTON
PRINTING DEPARTMENT
1912

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PART I.

REPORT TO THE GENERAL COURT.

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10.10.1934

Boston, January 23, 1912.

*To the Honorable the Senate and House of Representatives
in General Court Assembled:*

The Boston Finance Commission, as required by section 18 of chapter 486 of the Acts of 1909, respectfully submits herewith its annual report to the General Court.

I. ORGANIZATION OF THE COMMISSION.

The membership of the commission is unchanged, John F. Moors having been reappointed on July 12, 1911. With the exception of the appointment on July 14, 1911, of special counsel, on a per diem basis, to fill a vacancy caused by resignation, and of a few changes in minor positions, the organization remains the same as last year.

II. APPROPRIATION AND EXPENDITURES.

The commission asked an appropriation of \$40,000 and \$35,000 was allowed. The expenditures have been about the same as those of last year; approximately as follows:

1911-12.

Salaries and wages	\$20,852 13
Service of experts	6,721 72
Special counsel	675 00
Stenographic, clerical and other outside work	156 73
Magazines, books, atlases, maps, typewriter	177 50
Furnishing and office expenses, etc.	931 36
Telephone	259 05
Electric light	64 65
Postage	117 50
Rent	2,499 97
Constable services and witness fees	60 50
Printing and binding	2,244 23
Travel and messenger service	111 10
	<hr/>
	\$34,871 44

III. THE WORK OF THE COMMISSION.

The following table gives some indication of the extent of the commission's work during the past year:

Meetings of the commission	114
Hearings	155
Reports published	31
Unpublished official reports	21

These figures, however, give only a partial account of the work of the commission. They do not show the extent of the work performed in the large number of investigations upon which no formal reports have been issued, but which required numerous conferences with public officials and examinations of their records with respect to purchases of land, materials and supplies, contract awards and increases in the number and compensation of employees. In the opinion of the commission this part of its work has been quite as important as that upon which reports have been published, as it has had a direct tendency to prevent waste and extravagance. The entire work has required much more of the time of the chairman, who receives a salary, and far greater sacrifices on the part of the four unpaid members of the commission than was anticipated when the commission was established.

A complete list of the commission's published reports in 1911-12 is as follows:

- Feb. 1, 1911. Transfer to the state of the Suffolk School for Boys and the Placing-Out Division of the Children's Institutions Department, and the discontinuance of the Parental School.
(Investigation requested by the Mayor.)
- Feb. 16, 1911. Economic and social problems involved in the report of the chairman of the Trustees of the Consumptives' Hospital.
(Investigation requested by the Mayor.)
- Feb. 18, 1911. Communication on the net indebtedness of the City of Boston.
- Feb. 25, 1911. Transfer to the state of the Boston Normal School.
(Investigation requested by the Mayor.)
- March 1, 1911. Contribution by the state to the support of the Mechanic Arts High School.
(Investigation requested by the Mayor.)

- March 22, 1911. Fire Department problems.
(Investigation requested by the Mayor.)
- March 23, 1911. Taxation of the estate of the late Quincy A. Shaw.
(Investigation requested by the Mayor.)
- April 8, 1911. Increase in salaries of elementary school teachers.
(Investigation requested by the Mayor.)
- April 12, 1911. Necessity of appointing a third member of the Board of Health.
- April 15, 1911. Taxation of the Copley Square Trust.
(Investigation requested by the Mayor.)
- April 20, 1911. Contract for gymnastic apparatus, East Boston gymnasium.
- April 22, 1911. Appointment of a sanitary engineer as a third member of the Board of Health.
- April 26, 1911. Bids for furnishing motor apparatus for the Fire Department.
(Investigation requested by the Mayor.)
- April 29, 1911. Proposals for lighting the streets with gas and for furnishing lighting equipment.
- May 8, 1911. Investigation of bids for supplying coal to the City of Boston.
(Investigation requested by the Mayor.)
- May 10, 1911. Permits or licenses for certain private uses of public streets.
(Investigation requested by the Mayor.)
- May 12, 1911. Acceptance of the act (chapter 312 of the Acts of 1911) providing for the installation of high pressure water service in the City of Boston.
(Investigation requested by the City Council.)
- May 17, 1911. Firemen's pensions.
- May 27, 1911. Proposed widening of Meridian Street Bridge between East Boston and Chelsea.
(Investigation requested by the City Council.)
- June 24, 1911. Taxation of the firm of J. B. Moors & Company.
(Investigation requested by the Mayor.)
- July 24, 1911. Reorganization of the City Clerk Department.
- Aug. 16, 1911. Better fire protection for the City of Boston.
- Aug. 21, 1911. Further communication on better fire protection for the City of Boston.
- Oct. 7, 1911. Public school system of Boston.
(Investigation requested by the Mayor.)
- Oct. 11, 1911. General Pension Act.
(Investigation requested by the City Council.)
- Oct. 18, 1911. Extended use of school buildings.
(Investigation requested by the Mayor.)
- Oct. 23, 1911. Laborers' Pension Act.
(Investigation requested by the City Council.)
- Oct. 25, 1911. Extended use of school buildings.
(Investigation requested by the Mayor.)
- Nov. 1, 1911. Collapse of the building corner of Battery and Hanover streets, Boston.
(Investigation requested by the Mayor.)

- Dec. 27, 1911. Bids for the disposal of garbage and other refuse.
(Investigation requested by the City Council.)
- Jan. 3, 1912. Contribution of the city towards the maintenance of
the Land Court.
(Investigation requested by the Mayor.)

IV. RESULTS OF THE MOST IMPORTANT OF THESE INVESTIGATIONS.

1. PUBLIC SCHOOLS.

(a) *The Administration of the Boston Public Schools.*

The conclusions and recommendations of the commission on this question have been set forth in previous publications and need not be restated in detail. Speaking generally, the commission found that the administration of the School Committee was fully entitled to public confidence; that the schools had been conducted honestly, economically and intelligently by the present School Committee; and that other city departments might well study the school department "with a view to imitating it in regard to scales of salary, absence of unnecessary employees, economical methods of purchase, intelligent schemes of supervision and organization, merit system of promotion and exclusion of politics from appointments."

The commission made several recommendations, the most important of which the School Committee has since voted to put into effect. These related to the further reduction in the size of school classes; the appointment of the necessary clerical assistants to the principals in the elementary schools; the improvement of the system of visitation, and the retirement of text-books which become unclean, worn-out, or are excluded from the authorized lists.

(b) *School Matters Involving Recourse to the Legislature.*

(1) *Increase of Teachers' Salaries.*

As a result of its investigations the commission recommended an increase of the salaries of school teachers. The School Committee favored an increase,

but a dispute arose between the School Committee and the elementary school teachers in regard to the bill introduced by such teachers to secure the increase. Finally, the Legislature passed an act providing for increases, but it was vetoed by the Governor because it made it "compulsory upon the School Committee of Boston to spend a certain fixed proportion of its appropriations for increasing salaries of a particular class of teachers," such provision being regarded by him as "an unwarranted interference by the Legislature with a question which the citizens of Boston, through the Boston School Committee, are competent to decide for themselves and should decide for themselves." A new act was thereupon passed and approved by the Governor (chapter 708 of the Acts of 1911) which authorized increased appropriations of ten cents for the financial year ending January 31, 1913, on each one thousand dollars of the valuations on which the appropriations of the City Council are based; of twenty cents for the financial year ending January 31, 1914; and twenty-five cents for each financial year thereafter; such additional amounts to be wholly appropriated by the School Committee for the purpose of increasing the present salaries of the teachers in the public schools. The net result is that the money will be available, the elementary school teachers will receive increases, and the School Committee will be free to exercise its discretion as to increases of salaries of other classes of school teachers, instead of being compelled to devote the entire amount of the increased appropriation to the elementary teachers, as the bill which the Governor vetoed provided. The veto of the Governor prevented the establishment of a dangerous precedent from which most injurious consequences might have resulted.

(2) *Extended Use of School Buildings.*

After investigation the commission recommended, as the only practical way of providing for the more

extended use of school buildings by the public outside of school hours, that the Legislature be asked to give the School Committee authority to appropriate for this purpose an additional sum not exceeding two cents upon each one thousand dollars of the valuations upon which the appropriations of the City Council are based. To effect this recommendation a bill has been drawn and presented to the Legislature of 1912.

(3) *The Question of Transferring the Boston Normal School to the State, or of Securing from the State a Contribution Towards its Support.*

The commission recommended that the city retain control of the school, but that the state be asked to contribute towards its support. A bill in the last Legislature (House Bill 589) provided for such contribution, but failed of passage. The State Board of Education, acting under a resolve of the Legislature of 1911 (Resolves of 1911, chapter 97), has filed a report with the Legislature of 1912 in which state contribution is opposed, and one year more is asked for a study of the question of transferring the Boston Normal School to the state, or of establishing a state normal school in or near Boston. The commission believes the Mayor would be justified in requesting the Legislature to authorize a contribution by the state towards the support of the Boston Normal School as a fair offset to Boston's contribution through the state tax of more than one-third of the expense of the support of the state normal schools.

(4) *Establishment of the Mechanic Arts High School as an Independent Industrial School.*

A bill for this purpose was introduced by the Mayor last year in order to secure a contribution from the state and thus reduce the city's expenditure for the school's maintenance, which is about \$100,000 a year; but the commission did not recommend the passage of the bill because: (1) The State Board of Education and

the Boston School Committee had already sufficient authority under the law to make the proposed change. (2) Because the change would increase the amount of the state tax if other municipalities followed the precedent thus created, and consequently Boston's increased payments towards the state tax might be greater than the state's contribution towards the support of the school in question, and (3) Because the Boston School Committee might feel compelled to establish a new Mechanic Arts High School to take the place of the existing one when converted to other uses.

The bill favored by the Mayor was given leave to withdraw.

2. CIVIL PENSIONS.

The commission investigated three proposed pension acts, one for firemen, one for laborers and another for employees generally of the City of Boston.

(a) *Firemen's Pensions.*

The commission recommended the veto by the Governor of the firemen's pension act, which was passed by the Legislature of 1911, because the existing pension law made adequate provision for the firemen, whereas the new act, while providing for additional pensions, removed the safeguards of the existing law. The Governor, in a special message to the Legislature, dated May 19, 1911, vetoed the act on the ground that it permitted pensions after fifteen years' employment, even though the service was neither continuous nor satisfactory; that it permitted pensions for merely temporary disability; that it also permitted pensions after twenty-five years of service irrespective of age and ability to render further service, and that it did not provide for acceptance by the City Council or by the voters of Boston.

(b) *Laborers' Pension Act.*

The commission recommended the rejection by the City Council of the act (chapter 413 of the Acts of

1911) which provided for pensions for laborers in the employ of the city. The commission's chief objections were that the term of service required (twenty-five years) was too long to permit retirement of all the inefficient laborers, as many of them entered the city's employ late in life; that it did not provide pensions for mechanics in the city's labor force; and that there was no provision for contribution by the employees nor any test for incapacity. The commission recommended that a new bill framed to meet these and other defects, and to provide necessary safeguards for the city's financial interests, be introduced in the Legislature of 1912; but the City Council accepted the act and at the same time requested the commission to draw up amendments to the act and submit the same to the Legislature of 1912. The commission, through pressure of many other important duties, such as the investigation of the Building Department (requested by the Mayor), the investigation of the bids for the refuse disposal contract (requested by the City Council), and the preparation of the annual report which the law requires the commission to submit to the Legislature in January, has been unable to prepare the amendments, but it believes the Mayor should instruct the Corporation Counsel to draw and file a bill as early as practicable which will embody the suggestions of the commission in its report of October 23, 1911. These suggestions were as follows:

1. The service period should be fifteen years.
2. Mechanics in the labor force should be included as well as laborers.
3. Tests of capacity should be made of employees between sixty and seventy years of age by the city physician upon the request of the heads of departments.
4. Employees who reach seventy years of age should be retired without proof of incapacity on the filing of certificates of retirement with the City Auditor by the heads of departments.
5. There should be safeguards against the re-entry into

city employ of those actually out of the service who desire to retire in a few days or weeks with a pension.

6. Heads of departments who intend to fill vacancies caused by retirement should be required to file a statement under oath with the City Auditor, stating the reasons for filling such vacancies.

7. Certificates of incapacity of employees between sixty and seventy years old should be filed by the city physician with the auditor before retirements become effective.

8. The City Auditor should keep a record, open to public inspection, which would contain the essential facts in regard to retirements and the filling of vacancies caused thereby, and he should publish an annual report showing the effects of the retirement system upon the expenditures and the efficiency of the various departments.

9. There should be no board of retirement or employees' association; the City Treasurer should be able to administer the financial part of the system, and the heads of departments, aided by the city physician, should be able to administer the other part of the system.

10. There should be provision for contribution by the employees.

11. There should be a provision requiring the physical examination of laborers and mechanics who hereafter seek employment in the city's service, and prohibiting the employment of those who are physically unfit.

12. The act should become effective only upon its acceptance by the Mayor and City Council.

(c) *General Pension Act.*

The commission also recommended the rejection by the City Council of the general pension act for city employees (chapter 619 of the Acts of 1910 as amended by chapter 338 of the Acts of 1911) principally on the ground that the existing conditions of public employment in Boston do not warrant the city in providing further privileges for an already privileged class (the city's employees) at the expense of the taxpayers generally, among whom are thousands of private employees whose hours of labor are longer, compensation less, and occupation not as steady as that of the city's employees.

The City Council accepted the recommendation of the commission and rejected the act.

3. REORGANIZATION OF THE CITY CLERK DEPARTMENT.

The commission recommended reorganization of this department on lines which would save the city \$15,000 annually without loss of efficiency, but nothing has been done to stop this waste of the city's money.

4. APPOINTMENT OF A SANITARY ENGINEER TO THE BOARD OF HEALTH.

On April 12, 1911, the commission recommended that the Mayor appoint a sanitary engineer to the Board of Health to take the place of the member who was temporarily appointed without regard to his qualifications, and without having his qualifications passed upon by the Civil Service Commission. If this recommendation had been adopted there would have been two physicians and a sanitary engineer on the Board of Health. The Mayor was quoted as willing to appoint a sanitary engineer, as recommended by the commission, if one could be found who had qualifications which would receive the approval of the Civil Service Commission. On April 22 the Finance Commission submitted to the Mayor a list of six sanitary engineers of experience in public health administration, none of whom sought the position, but each of whom was willing to accept it as a matter of public duty. The Mayor ignored the opportunity thus presented, and on May 5, 1911, appointed to the Board of Health a veterinarian.

5. TRANSFER TO THE STATE OF THE SUFFOLK SCHOOL FOR BOYS AND THE PLACING-OUT AND OFFICE DIVISION OF THE CHILDREN'S INSTITUTIONS DEPARTMENT.

The commission, after an investigation requested by the Mayor, recommended on February 1, 1911, the transfer to the state of the care of the inmates of the Suffolk School for Boys on Rainsford Island and the

transfer to the State Board of Charity of the duties of the Placing-Out Division of the Children's Institutions Department. The estimated saving to the City of Boston by the adoption of these recommendations is \$94,000 a year. The commission presented a bill to the Legislature of 1911 which would have effected these recommendations. The Mayor gave the bill no support, and it was defeated.

6. TAXATION OF THE ESTATE OF THE LATE QUINCY A. SHAW, AND OF THE COPLEY SQUARE TRUST.

After an investigation the commission procured the payment of and turned into the City Treasury \$492,020.42, being the sum (including an allowance for interest) assessable in addition to the amounts actually assessed on the estate of the late Quincy A. Shaw for the years 1908 and 1909, payment of which, at the time of the commission's investigation, could not have been compelled by law.

The commission also investigated the question of the alleged obligation of the Copley Square Trust to pay taxes above the amounts already paid, and found that there was no moral or legal obligation to pay any additional amount.

7. BETTER FIRE PROTECTION IN THE CITY OF BOSTON.

As a result of an investigation the commission recommended the appointment to the Boston Fire Department of fifty additional firemen; the appropriation of \$175,000 for the purchase of motor apparatus for the Fire Department; the passage and acceptance of the Mayor's bill providing for the installation of a high pressure water service in the business district; the extension of the present building limits, and the repeal of the ordinances regulating the time-off and meal-hours of the firemen so as to restore the Fire Commissioner's authority over his department. The Mayor has done nothing, however, to increase the fire-fighting force or to provide the necessary motor apparatus, though both have been strongly

urged by the Fire Commissioner. The Legislature passed and the Mayor and City Council accepted the act providing for the high pressure water service. The Mayor has attempted to secure an extension of the building limits, so far without success. Neither the Mayor nor the City Council has taken any steps to restore the Fire Commissioner's authority over the department in respect to the time-off and meal hours of the firemen.

8 AND 9. STREET LIGHTING CONTRACTS AND REFUSE DISPOSAL CONTRACTS.

Such contracts are of great importance as they involve large sums and are of such long duration as to be in effect limited public franchises. The former Finance Commission attempted to safeguard the city's interests by providing in section 6 of the charter amendments (Acts of 1909, chapter 486) that such contracts should not be valid unless approved by the Mayor and City Council after a public hearing of which seven days' notice had been given in the *City Record*. The present Finance Commission has given close attention to the various proposals for continuing the street lighting and refuse disposal service by new contracts, or otherwise, and has made several reports upon these subjects.

(a) *The Contract for Street Lighting by Gas.*

On July 22, 1910, the commission recommended the appropriation by the Mayor and City Council of \$310,000 for the purchase and installation of 12,000 inverted mantle gas lamps complete, with automatic devices for lighting and extinguishing, as a means of procuring better and cheaper light than that furnished by the Rising Sun Street Lighting Company under various renewals of a contract which had expired on July 1, 1906. On April 29, 1911, the commission recommended the rejection by the City Council of the pending offer of the Rising Sun Company, and recommended that the city purchase and operate its own gas lighting

plant. The City Council rejected the offer of the Rising Sun Company, and on June 30, 1911, appropriated \$300,000 for the purchase by the city of a complete gas lighting and extinguishing equipment. The appropriation was approved by the Mayor, and the Superintendent of the Supply Department, on September 16, 1911, advertised for bids for furnishing and installing approximately 11,000 inverted mantle gas lamps. The bids were opened on October 18, 1911, and were as follows:

Ehrlich & Graetz	\$4 60 ex duty.
United Gas Light and Manufacturing Com- pany	6 40
Novelty Manufacturing Company	6 50

The Commissioner of Public Works, having ascertained the amount of duty on the Ehrlich & Graetz lamp of foreign manufacture to be approximately \$1.64, thus bringing the price to \$6.24, or 16 cents less than the next lowest bidder, and having also received a guaranty from the Ehrlich & Graetz Company that the price, duty paid, would not exceed \$6.24, awarded the contract to that company. This contract was for the purchase of lamps and not for street lighting within the meaning of section 6 of the charter amendments, and therefore did not require the approval of the City Council, but it did require the approval of the Mayor. As the Corporation Counsel stated that an award of the contract to the Ehrlich & Graetz Company would have been legal, although its bid was not strictly in conformity with the notice to bidders, and as the lamps of the three bidders in question had been tested under service conditions and the Ehrlich & Graetz lamp had been found superior to the others in design, structural material and illuminating power, and as the Commissioner of Public Works, the Supervisor of Lamps, and the Superintendent of the Supply Department all stated that in their opinion a new advertisement for bids would not result in securing a better offer, the commission, on December 1, 1911, sent

a communication to the Mayor which recommended the purchase of the Ehrlich & Graetz lamps.

The Mayor, however, having received an opinion from the Corporation Counsel that the bid of the Ehrlich & Graetz Company was not in conformity with the notice to bidders because the entire price, duty included, was not stated in the bid, refused to approve the contract. The Mayor then instructed the Superintendent of the Supply Department to advertise for new bids for mantle lamps, but not to specify inverted mantle lamps, the latter being the kind the commission had recommended as superior, all things considered, to upright lamps. There are other variations in the new advertisement from the former advertisement for bids which, in the opinion of the commission's engineer, are likely to lead to complications that will postpone still further the time when the city shall install and operate an efficient and economical lighting system. This is an unfortunate situation for which the Mayor is responsible.

(b) The Refuse Disposal Contract.

The commission on June 9, 1911, sent a communication to the Commissioner of Public Works, stating in effect that it believed the city's interests would be promoted by the acceptance of the lowest of the bids submitted on April 24, 1911, for the disposal of garbage and other refuse. The Commissioner of Public Works believed a better bid could be secured by a new advertisement, and accordingly advertised on October 28, 1911, for bids on new specifications. The new specifications applied to a smaller territory than the old ones, the Brighton district having been excluded, and there were other changes which also reduced the amount of the work to be done by the contractor. The new bids were opened on December 5, 1911, and the Commissioner of Public Works awarded the contract to the Boston Development and Sanitary Company, whose price for the ten-year contract was \$1,432,000, or

\$11,738 less than that of the Boston Disposal Company, its nearest competitor. A controversy arose between these two companies as to the advantages to the city, financial and otherwise, of the acceptance of their respective bids; and, at the request of the City Council for an investigation of the question, the commission gave hearings to the companies, and submitted a report on December 27, 1911, recommending that the Council approve the award of the Commissioner of Public Works. The City Council, on January 11, 1912, by a vote of 7 to 2, approved the award of the contract to the Boston Development and Sanitary Company, and the contract now awaits the action of the Mayor.

V. LEGISLATION AFFECTING BOSTON'S FINANCES.

In the consideration of legislative measures affecting Boston's finances the city's great wealth seems to have led past Legislatures to assume that Boston's capacity for bearing financial burdens was practically unlimited, and this mistaken assumption has had unfortunate effects upon the city's taxpayers. The Legislature seems often to have neglected to take into account not only the costly municipal government which the citizens of Boston have to maintain, but also the fact that they pay the expenses of the County of Suffolk; that they pay the cost of the quarantine service of the port of Boston, which is a benefit to the entire state, and that they pay a share of the cost of the metropolitan district improvements and state highways far in excess of the benefits received therefrom. Another source of mischief has been the apparent belief in past Legislatures that allowing the city to borrow money outside the debt limit was a favor done the city and necessarily beneficial, when the opposite was often the fact. So far did this go that at one time the debt limit had become a meaningless term — to the city's great detriment.

In recent years, however, the Legislature has shown on the whole a commendable tendency to treat Boston

more justly by providing for the taking over by the Commonwealth of the insane hospital previously maintained wholly at Boston's expense, by providing for the equitable apportionment between Boston and the Commonwealth, or between Boston and other municipalities, of expenses which were formerly borne by Boston alone, by treating the city more firmly in the matter of enforcing the debt limit, and by providing means to increase the city's revenue through charges for specific services rendered. Instances of such action by the Legislature are as follows:

1. ADDITION TO SUFFOLK COUNTY COURTHOUSE.

By chapter 534 of the Acts of 1906, and subsequent acts,* the Legislature authorized the expenditure of \$935,000 for enlarging the Suffolk County Courthouse and providing additional detention rooms and accommodations, and provided for the payment by the Commonwealth of one-third of the expense, thereby relieving the city of an expense of approximately \$312,000 to which it would otherwise have been unjustly subjected.

2. TRANSFER OF THE BOSTON INSANE HOSPITAL TO THE STATE.

The former Finance Commission, on December 27, 1907, recommended that the Commonwealth take over and support the Boston Insane Hospital, then maintained by the city. The Legislature, by chapter 613 of the Acts of 1908, provided for the transfer and the state took over the property, paying the city \$1,000,000. The city has since been relieved of maintenance charges estimated at about \$116,000 a year, net.

3. REDUCTION OF BOSTON'S BURDEN OF SUFFOLK COUNTY EXPENSES.

With the desire of procuring an equitable contribution from Chelsea, Revere and Winthrop towards the payment of Suffolk County expenses, of which Boston

* 1908, chapters 215, 603; 1910, chapter 522.

bears the entire burden, the commission, in its report to the General Court on January 31, 1910, recommended that such expenses be apportioned between the municipalities in Suffolk County. The Legislature passed a resolve (chapter 109, Resolves of 1910) for the appointment of a commission to make such apportionment, which resolve has since been amended by chapter 482 of the Acts of 1911. Under the latter the city, pursuant to a vote of the City Council on November 13, 1911, has filed a petition with the Supreme Judicial Court for the appointment of the apportionment commission, which petition is now pending.

4. REDUCTION OF BOSTON'S SHARE OF THE EXPENSE OF MAINTAINING BRIDGES OVER WATERS.

As the result of an investigation requested by the Mayor the commission made a report, dated November 19, 1910, recommending that the city petition the Legislature for relief from part of its burden of maintaining bridges between Boston and certain other municipalities; and the Legislature of 1911, on petition of the city, passed an act (chapter 581 of the Acts of 1911) providing for the appointment of a commission by a justice of the Supreme Judicial Court to apportion among the cities and towns which receive special benefits from (1) the Chelsea Bridge between Charlestown and Chelsea, (2) the Meridian Street Bridge between East Boston and Chelsea, and (3) the Chelsea Street Bridge between East Boston and Chelsea, a just and equitable share of the cost of construction, reconstruction, repairs and maintenance of said bridges, and to assess upon any street railway having a location upon any of said bridges a just and equitable share of the cost of construction and repairs. In pursuance of a vote of the City Council on July 17, 1911, the Corporation Counsel has made application in the name of the City of Boston for the appointment of the apportionment commission and the petition is now pending.

5. REDUCTION OF THE CITY'S PAYMENTS FOR COURT EXPENSES.

On October 4, 1911, the Mayor requested the commission to investigate the question of reducing the city's payments towards the expense of the Land Court, and the commission submitted a report on January 3, 1912, in which it was pointed out that while the city was required to pay more than its just share of the expense, the amount involved was too small to warrant asking relief through legislation, but recommended that the whole matter of the apportionment of court expenditures, civil and criminal, be studied by a special commission to be appointed by the Governor. The matter was then referred by the Mayor to the Corporation Counsel, who has since submitted a bill to the Legislature which provides that hereafter the Commonwealth shall pay annually to the County of Suffolk "one-third of the amount paid by said county for janitor service and for the lighting, heating and the making of necessary repairs of said courthouse," and also "one-third of the amount paid by said County of Suffolk for the maintenance of the Supreme Judicial Court, the Superior Court for said county, and the Land Court." This bill provides a direct remedy for the injustice of the present situation under which Boston is obliged to pay the expenses of litigation in Suffolk County which is conducted here for the convenience of the parties, but which should be conducted outside of Suffolk County. The bill is based on the legislative precedent established by chapter 534 of the Acts of 1906, under which, as already stated, the Commonwealth pays one-third of the cost of enlarging the Suffolk County Courthouse.

6. INCREASE OF THE CITY'S REVENUES.

The Legislature in 1910, on petition of the commission, passed an act (chapter 571 of the Acts of 1910) authorizing the establishment of fees for permits and

licenses issued by the heads of departments, and under this act the city's revenues have substantially increased. The Department of Public Works has collected under this act \$44,684.14 from the date of its passage up to January 1, 1912. In the same period the Health Department has collected \$784, the Wire Department \$3,713.50, the Fire Department \$38.35; a total of \$49,219.99. The Building Department has lately established a scale of fees under which it is estimated that \$70,000 will be collected annually. When other departments take advantage of the provisions of the act a very material increase in the city's revenues will be effected.

7. LOANS OUTSIDE THE DEBT LIMIT.

As contrasted with the favorable attitude towards the city shown by the foregoing instances, the Legislature of 1911 seems to have disregarded the city's financial interests in the following two cases:

By chapter 435 of the Acts of 1911 the Legislature authorized the city to purchase land and equipment for a playground in Ward 5 and to borrow \$100,000 outside the debt limit for that purpose. This act was unnecessary because the city had already sufficient authority to provide the playground and sufficient means to do so without recourse to a loan outside the debt limit. Again, by chapter 591 of the Acts of 1911 the Legislature authorized the widening of Pleasant street and the borrowing of \$900,000 outside the debt limit for that purpose. The commission requested the Legislature to reject the playground bill on the ground that it was unnecessary, and to provide that the loan for widening Pleasant street be authorized within the debt limit, but both requests were disregarded. Neither of the loans provided for by these acts has been issued, and both projects could, but for the Legislature's action, be provided for in the next fiscal year without recourse to loans outside the debt limit. In fact,

the playground has already been provided for by the independent action of the City Council by authorizing a loan of \$80,000 inside the debt limit.

VI. THE YEAR'S FINANCIAL RECORD.

The financial year ends on the 31st of January, hence the record for the entire year 1911-12 cannot be presented at this time. The appropriations and loans, however, will not be materially increased during the remainder of the year, therefore the record of appropriations and loans up to the date of this report (January 23, 1912) will be practically the record for the entire year. The expenditures for the remainder of this month cannot be estimated accurately, hence only the figures for eleven months of the year are herein presented.

1. APPROPRIATIONS BY THE MAYOR AND COUNCIL FROM TAXES AND REVENUE.

These appropriations amounted to \$22,169,403.87 in 1911-12, and were larger than those of any previous year in the city's history. A comparison of such appropriations in the last two years with those of the last year of the present Mayor's predecessor is made in the following table:

MAYOR.	Year.	Amount.
Hibbard.....	1909-10	\$19,776,063 50
Fitzgerald.....	1910-11	20,227,077 00
Fitzgerald.....	1911-12	22,169,403 87

This shows an increase in the first year of the present Mayor (1910-11) over the preceding year of \$451,013.50; an increase in his second year (1911-12) of \$1,942,326.87 over his first year (1910-11), and of \$2,393,340.37 over the last year (1909-10) of his predecessor.

Deducting the amounts appropriated for departments whose heads are not appointed by the Mayor and therefore not under his control, namely, the Finance Commission, Police Department, Licensing Board, Suffolk County Departments (except the Penal Institutions Department), and also deducting, as being largely due to the loans of previous years, the appropriations for the city and county debt requirements, there remain the following appropriations for which the Mayor may fairly be held responsible.

MAYOR.	Year.	Amount.
Hibbard.....	1909-10	\$11,362,466 50
Fitzgerald.....	1910-11	11,707,937 00
Fitzgerald.....	1911-12	13,392,796 42

The first year of the present Mayor (1910-11) shows an increase of \$345,470.50 over 1909-10, the last year of his predecessor; his second year (1911-12) shows an increase of \$1,684,859.42 over his first year (1910-11), and \$2,030,329.92 over 1909-10, the last year of his predecessor.

The extraordinary size of the appropriations for the year 1911-12 is partly accounted for by the large amount appropriated for improvements of a permanent nature or of the kind for which loans have been authorized in earlier years. The appropriations for permanent improvements out of taxes and revenue are creditable to the Mayor and the majority of the City Council which supported him in this policy, as they tend both to keep down the city's debt and to reduce the amount of cash on hand, much of which might otherwise be used in unnecessarily increasing the number and compensation of city employees. Yet, if the Mayor had adopted a policy of pay roll reform in the beginning of the year, these permanent improvements could have been provided from taxes without increasing the normal size of the annual appropriations, in which event the

tax rate could have been reduced because of the increased valuations of property subject to taxation, the estimated increase in revenues from sources other than taxes, and the large amount collected from the Shaw estate in the month of March.

2. EXTRAVAGANCE IN PAY ROLLS.

Instead of effecting reforms in the pay roll the Mayor has permitted an increase in the number and compensation of employees and an unwarranted allowance for overtime payments.

A. *Number and Compensation of Employees.*

The number of city and county employees shown by the official list, published as of April 30 in each year, appears to have been 13,988 in 1911-12, or 324 more than in the previous year. Of these increases 275 have been made in departments under the Mayor's control, while only 49 have been made in the departments whose heads are not appointed by the Mayor. The rate of increase in the departments under the Mayor's control was about four times as great as that in the departments not under his control, despite the fact that the departments under the Mayor's control were already overloaded with employees. The pay roll figures have not been completed for the year 1911-12, but the increase in the number of employees already shown, and the numerous increases in compensation which have appeared in the *City Record*, will bring the total payments on account of pay roll considerably above the figures of last year.

B. *Overtime Payments.*

The overtime payments in 1910-11 were \$67,271.79, of which \$606.53 was paid by three departments* whose heads are not appointed by the Mayor, and the balance, \$66,665.26, was paid by departments under the Mayor's

* The Finance Commission, \$58.98; Licensing Board, \$387.55; School Committee, \$160; total, \$606.53.

control. In the current financial year up to January 6, 1912, the overtime payments were \$66,302.67, all of which were made by departments under the control of the Mayor. Exactly how much of the overtime money was unwarranted cannot be stated without a thorough investigation, but the commission, from its knowledge of the conditions in some of these departments, is convinced that a considerable part of the amount spent for this purpose was not justified by the work done. Many such payments would have been entirely unnecessary under a proper rearrangement of departmental business. In many cases the work could have been done in regular business hours and the overtime payments were in effect increases of salary though nominally otherwise.

In 1910, just before Christmas, two of the Mayor's office force received from the city's treasury \$200 each in addition to their regular salaries, these payments being entered on the city's books as overtime. They were lump sum payments, unaccompanied by itemized statements such as are required in the case of overtime payments by departments other than the Mayor's. Moreover, they were not published in the *City Record* at the time, as they should have been. In 1911, also, just before Christmas, eight employees on the pay roll of the Mayor's office received lump sum payments amounting to \$1,325, the two assistants aforesaid receiving \$300 each at this time. All of these payments were also entered on the city's books as overtime. In one case payments were entered as having been made for overtime work during September, October and November; in other cases no particular time was stated, and in still other cases the entry was for overtime "during the year." There is no justification for this practice of the Mayor's in making presents of the city's money under the guise of overtime payments.

3. LACK OF PROPER ACCOUNTING FOR TRAVELING AND OTHER EXPENSES.

Another bad practice is that which permits city officials to draw the city's money and spend it afterwards for travel in the United States and abroad without filing an account of the money spent. In the summer of 1911 the Mayor and the Superintendent of the Highway Division drew \$1,200 each from the city for the expected expenses of a trip to Europe, but neither filed any account for the money spent. The Superintendent of the Highway Division returned \$100 of the money, but the Mayor returned nothing.

Still another bad practice is that under which the Mayor's assistant secretary has drawn money from the city from month to month, the total being \$2,903.69 in the last two years. This appears from the bills on file at the Auditor's office to have been paid as reimbursement for money spent for various purposes by the Mayor's office, but the amounts spent on the various items are not shown, and there is nothing of record to show just how this money of the city was spent. This practice is said to be one of long standing, but the sooner it is stopped the better.

4. EXPENDITURES FROM APPROPRIATIONS FOR THE MAINTENANCE OF DEPARTMENTS.

As the year 1911-12 has not been completed, only the figures for eleven months are herein presented. The expenditures for maintenance by departments for which the Mayor and Council make appropriations are shown in the *City Record* of January 6, 1912, to have been \$14,562,043.38 up to January 1 of the fiscal year 1911-12.* Of this sum the departments whose heads are appointed by the Mayor spent \$11,365,200.12 in 1911-12. A comparison of the maintenance expenditures for the last three years by departments under the control of the Mayor is shown in the following table:

* This does not include expenditures from loans or special appropriations or payments on account of debt.

MAYOR.	Year.	Amount.
Hibbard.....	1909-10	\$10,695,964 08
Fitgerald.....	1910-11	11,049,201 50
Fitgerald.....	1911-12	11,385,200 12

The first year of the present Mayor's term (1910-11) shows an increase of \$353,237.42 over 1909-10, the last year of his predecessor; the present Mayor's second year (1911-12) shows an increase of \$315,998.62 over his first year (1910-11), and of \$669,236.04 over the last year (1909-10) of his predecessor.

5. THE BORROWING POWER AND THE CITY DEBT.

A. *The Borrowing Power.*

In contrast to the foregoing aspects of the financial administration of the current year, the borrowing power has been exercised with care and moderation. During the current financial year, up to December 31, 1911, loans have been authorized within the debt limit amounting to \$3,032,000, which left on that date a borrowing capacity of \$748,983.47, or nearly \$250,000 more than the amount (\$500,000) which the City Auditor and the Finance Commission have recommended as a proper reserve for emergencies. If the City Council had authorized some of the loans requested by the Mayor this margin of \$748,983.47 would have been practically wiped out. The loan which he requested on October 30, 1911, for the extension of Arlington street and the widening of Ferdinand street (\$520,000) would of itself have gone far to exhaust the remaining borrowing power.

The loans authorized by the City Council, with the exception of the \$250,000 loan for sewerage works, were for proper objects and seem to have been necessary. The annual sewerage works loan is sanctioned by precedent, but the work is of an annually recurrent nature, and moreover a large part of the money is spent

for maintenance, therefore this work should more properly be provided for by taxes. The loan of April 12, 1911, of \$500,000 for land and buildings for schools which the School Committee voted to authorize, was for a proper object, but about \$137,000 of this amount could have been provided out of taxes under the provisions of chapter 448 of the Acts of 1901, which authorize the appropriation by the School Committee for this purpose of 40 cents on each \$1,000 of valuations upon which the appropriations of the City Council are based. The School Committee appropriated from taxes for this purpose \$405,000, but could have appropriated \$542,166.73, in which event a loan for about \$363,000 would have been sufficient.

*B. The City Debt.**

As the financial year will not close until January 31, 1912, the debt statement for the entire financial year cannot now be presented. On December 31, 1911, the net city debt was \$72,833,964.71, as against \$73,109,884.21 on December 31, 1910, a reduction of \$275,919.50. Exclusive of the rapid transit debt, the net city debt was \$57,241,725.26 on December 31, 1911, as against \$57,692,511.32 on December 31, 1910, a reduction of \$450,786.06. This shows that, for the time being at least, the tendency of recent years to increase the debt has been checked. While the reduction of the debt in the last year was small it is gratifying as a step in the right direction.

6. THE CITY DEBT PLUS ITS SHARE OF THE STATE AND METROPOLITAN DISTRICT DEBTS.

The net debt obligation of the city, including its share of the net state and metropolitan district debts, has been computed as of November 30, 1911, as November 30 is the date of the close of the state's financial year. The city's share of the net state and

* Inclusive of the Suffolk County debt.

metropolitan district debts on November 30, 1911, was \$7,002,632.54 and \$37,838,659.45, respectively, as compared with \$6,936,130.48 and \$36,125,161.49, respectively, on November 30, 1910, an increase in the total amount of \$1,780,000.02. On November 30, 1911, the net city debt was \$72,959,992.76, as against \$73,198,701.40 on November 30, 1910, a decrease of \$238,708.64. The total net indebtedness of the city, including its share of the state and metropolitan district debts, was \$117,801,284.75 on November 30, 1911, as against \$116,259,993.37 on November 30, 1910, an increase of \$1,541,291.38.

7. THE AWARD OF CONTRACTS.

The manner in which contracts involving \$1,000 or more, and which under the law require public advertisement for bids, have been awarded in the last two years shows a marked improvement over the record of the Mayor in his first term, 1906-07 and 1907-08, and nearly equals the record of the late Mayor Hibbard in the years 1908-09 and 1909-10. The records are not complete, as the compilation in 1909-10 stopped at September 9, 1909, the date when the law went into effect changing the amount required to be advertised from \$2,000 to \$1,000, and the compilation in the present year, 1911-12, has only been brought up to January 1, 1912. From these compilations, however, a fair comparison can be made. From February 1, 1910, to January 1, 1912, the number of contracts involving \$1,000 or more was 818, and the total amount involved was \$7,102,802.35; and 716 contracts, involving \$6,633,774.47, were advertised, being 87.5 per cent. in number and 93.3 per cent. in amount. From February 1, 1908, to September 9, 1909, the number was 371, and the total amount involved \$4,213,602.33; and 337 contracts, involving \$4,013,195.91, were advertised, being 90.8 per cent. in number and 95.2 per cent. in amount. From January 1, 1906, to January 31, 1908 (the entire first term of the present Mayor and one month of his immediate prede-

cessor), the number was 338, and the total amount involved, \$5,046,730.25; and 159 contracts, involving \$3,573,066.71, were advertised, being 47 per cent. in number and 70.7 per cent. in amount.

8. LAND PURCHASES.

The figures of the land purchases during the current year have been compiled up to January 1, 1912, and show that the city has paid for thirty-three parcels \$371,444.95, or approximately 27 per cent. above their total assessed valuation. The land-takings which were settled out of court cost the city approximately 25 per cent. above the total assessed valuation of the land, while those which were tried in court cost approximately 43 per cent. above the assessed valuations.

VII. THE OPERATION OF THE CHARTER AMENDMENTS.

The charter amendments have now been tested in the first two years of their operation and they have stood the test well.

1. APPOINTMENT OF HEADS OF DEPARTMENTS.

The provision in the charter requiring the Civil Service Commission's approval as to qualifications of the persons appointed by the Mayor as heads of departments has helped to procure a number of good appointments and to defeat some bad ones. The net result can be seen in the improvement in appointments in the last two years as contrasted with the appointments by the same Mayor in 1906-07 and 1907-08 under the old charter.

2. CONTRACTS.

The provision in the new charter requiring public advertisement for bids on contracts involving \$1,000 or more has resulted in a marked improvement in this branch of the city's business as the contrast between

the records of the present Mayor under the old and the new charters has shown.

3. LOANS.

The borrowing power has been exercised with far greater care during the two years of the operation of the charter amendments than it was during the administration of the present Mayor under the old charter. This result is due in large part to the character of the new City Council and the charter amendments requiring two separate readings and two separate votes to pass a loan.

4. THE SMALL CITY COUNCIL ELECTED AT LARGE.

The provision in the charter amendments for a small Council elected at large continues to be successful in operation. The Council has been a bulwark against improvident long-term contracts for street lighting and refuse disposal. It has carefully guarded the city's financial interests in passing upon loans, thereby maintaining in this respect its excellent record of last year. The old form of general loan bill, made up on sectional lines, worked through by log-rolling methods and passed as a compromise measure, has ceased to exist under the new City Council. Moreover, as already stated, many improvements of a permanent character have been provided from taxes or revenue. This keeps down the debt, thus protecting the city from interest charges, and it applies to objects that are beneficial to the entire community money which otherwise, in all probability, would be used in large part to swell an already inflated municipal pay roll. While much can be said in favor of the theory that permanent improvements should be provided by loans, thus spreading the burden over many years instead of confining it to the taxpayers of the present year, the fact is that most of the so-called permanent improvements are of an annually recurrent nature which, on practical grounds, should be regarded as part of the city's expense account. In the year 1911-12

the only appropriation which the Council made from taxes or revenue that it might have been warranted in providing for by loan was the item of \$800,000 for an annex to the City Hall; but if this had been done one or more necessary objects of loans would have been excluded and the borrowing capacity, which on December 31, 1911, was \$748,983.47, would have been either entirely or almost exhausted.

The record of the Council in the last two years is a complete refutation of the charge made by the opponents of a small Council elected at large, namely, that districts without direct representation would not receive a fair share of local improvements. There has been no discrimination in favor of the wards or districts in which the members of the Council live. On the contrary, it happened that such districts have not fared as well as the so-called unrepresented districts. The appropriations for such improvements seem to have been made with regard to the interests of the city as a whole, without discrimination in favor of or against any particular section of the city.

5. NOMINATIONS AND ELECTIONS FOR MUNICIPAL OFFICES.

A. Municipal Nominations.

The charter provision which abolished the primary and substituted the system of nomination by petition has been of decided advantage to the city. It has saved the city money, as the expense of the primary system exceeded that of the petition system. It has also saved the candidates the expense and trouble of the preliminary campaign for nomination in the primaries. On the whole, it has resulted in an improvement as to character and qualifications in the candidates for municipal office.

B. Municipal Elections.

In most instances the municipal elections held under the new charter have resulted in the choice of the better qualified among the candidates. The absence both of

party nominations and of party labels on the ballot has prevented the dominance of the City Council by either of the national political parties, and has left the Council free to transact its business solely with regard to the interests of all the citizens irrespective of national party considerations or sectional clamor. The holding of the city election at a date two months later than the state election, after the momentum of the state campaign has been spent, has largely prevented the projection into the municipal election of party passion and prejudice engendered in the state election.

6. ALLEGED DEFECTS IN THE NOMINATING SYSTEM.

The only defect alleged which merits serious consideration is that too many signatures are required on a nomination petition. To get 5,000 signatures has been difficult, and various objectionable expedients have been devised. In some cases canvassers have been paid for each signature procured, and in others forgery of names has been resorted to. While these evils are serious, it should not be forgotten that they are far less demoralizing than the vituperation, fraud and intimidation which characterized the operation of the primary system of nominations for municipal office in this city. Again, while it has been found impossible for some to procure the necessary 5,000 signatures, the community has suffered no loss by their failure to procure a place on the ballot. No one who had the slightest possibility of election has been unable to procure the necessary signatures, and it has been a distinct advantage to the voters to have had a short ballot containing only the names of the small number who had a chance of election, unencumbered by the names of many who had no chance whatever of election. Weighed in the scales of the city's interests the merits of the short ballot have greatly overbalanced the sentimental considerations arising out of the exclusion of the disappointed aspirants for nomination.

Finally, it should be borne in mind that the practice of paying canvassers for procuring signatures has greatly diminished since the first election under the new charter. In the first election the difficulties of procuring 5,000 signatures were underestimated, hence the effective circulation of nomination papers was somewhat delayed, owing to insufficient preparation. This year preparations were begun earlier and less difficulty was encountered. Next year the difficulties may diminish still more, and the commission believes that eventually the system will meet with general acceptance. If the Election Commissioners prosecute cases of forgery brought to their attention such offences will soon cease. Nothing is required here except alertness and energy on the part of the Election Commissioners and a ready response by the District Attorney.

VIII. CONCLUSIONS.

The commission believes that those branches of the city's business which have been directly affected by the charter amendments have been improved; that many of the abuses which characterized the operation of the old charter have ceased; that the new system of nominations and elections has worked well; in short, that the value of the charter amendments has been proved by the experience of the last two years. There is no demand for a reduction of the large powers which the charter amendments give the Mayor, and while such large powers exist it would be unwise to remove any of the restraints which the charter amendments have placed upon him. The large powers and the reciprocal restraints are parts of the same plan and if the restraints are removed the powers should at the same time be reduced.

IX. RECOMMENDATIONS TO THE GENERAL COURT.

1. That the General Court scrutinize carefully every bill presented which provides for the borrowing of money

by the city, or for the creation of new offices in the city or the County of Suffolk, or for pensions for city or county employees; and that no bill providing for these objects, or otherwise affecting the city's financial interests, be passed except subject to the approval of the Mayor and City Council.

2. That the bill be passed which authorizes the appropriation by the School Committee of the City of Boston of two cents on each one thousand dollars of the valuations upon which appropriations of the City Council are based for the purpose of providing for the extended use of school buildings.

3. That the Laborers' Pension Act (chapter 413 of the Acts of 1911) be amended in accordance with the recommendations of the commission, as hereinbefore suggested.

4. That the bill be passed which provides for the payment by the Commonwealth of one-third of the expenses incurred by the city for the maintenance of the Supreme Judicial Court, the Superior Court for Suffolk County, and the Land Court, and of one-third of the expense of the city for heating, lighting and care of the Suffolk County Courthouse.

5. That the bill introduced by the Mayor be passed which provides for placing under Civil Service the employees of the Collecting and Treasury Departments of the City of Boston.

Respectfully submitted,

JOHN A. SULLIVAN, *Chairman*.
JOHN F. MOORS.
GEOFFREY B. LEHY.
CHARLES P. CURTIS.
FRANCIS N. BALCH.

PART II.

OFFICIAL COMMUNICATIONS.

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COMMUNICATION TO THE MAYOR IN RELATION TO THE CHILDREN'S INSTITUTIONS DEPARTMENT.

Boston, February 1, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,— On September 24, 1910, Your Honor requested the Finance Commission to consider whether the Legislature should be asked for authority to transfer to the state the duty of providing for boys now sent to the Suffolk School for Boys at Rainsford Island and there maintained at the expense of the City of Boston.

The commission has considered the question and respectfully submits its report herewith.

The financial question involved is whether the Commonwealth should pay for the care of Boston boys, such as are now sent to the Suffolk School, as it does for boys who live in other cities and towns in the state and are sent to state institutions; or whether the City of Boston should continue the maintenance of the Suffolk School at its sole expense, and at the same time pay about 35 per cent. (as its share of the state tax) of the cost of all similar institutions in the state.

The city pays about \$50,000 annually for maintaining the Suffolk School. If it were maintained by the state the city would pay only its share of the state tax for this institution, about one-third of the entire cost, and would thus save about \$33,000 a year.

The opportunity to save this large amount of money should not be neglected by the city unless it should appear that the boys transferred to the state schools would not be as well taken care of as they are at the Suffolk School. In order to learn whether the transfer would be beneficial, the Finance Commission caused

an investigation to be made of the conditions existing at the Suffolk School for Boys, the Lyman School at Westborough and the Industrial School for Boys at Shirley. As a result of this investigation the commission has concluded that the condition of the boys would on the whole be improved by the transfer.

The following objections, however, were raised to the transfer:

1. That the state schools, by reason of their distance from the city and the cost of transportation, would be inaccessible to many Boston parents.

2. That boys of the Catholic faith might upon reaching the probation period be placed out with families of a different faith, if the duty of placing out were transferred from the trustees of the Boston school to the trustees of the state schools.

3. That more Boston boys would be taught farming and fewer would receive industrial training if they were sent to the state schools.

4. That fewer probationers would be placed with their own families by the trustees of the state schools than are so placed by the trustees of the Suffolk School, and that consequently there would be more estrangements between children and parents.

CONSIDERATION OF THESE OBJECTIONS.

1. *Inaccessibility.*—The City of Boston now furnishes free passage on the boat which goes to the Suffolk School at Rainsford Island, but it would cost 75 cents for a round trip to the Lyman School at Westborough, \$1.22 on the Boston & Maine Railroad, and \$1.30 on the New York, New Haven & Hartford Railroad, for a round trip to the Berlin Branch of the Lyman School, and \$1.82 for a round trip to the Shirley School. If the parents of the boys were obliged to incur this expense the number of visits would undoubtedly be lessened, as the parents of such children are usually poor. Boston parents would then be in the same position as parents who reside in other cities and towns of the Common-

wealth, as the latter are obliged to pay for their transportation to the state institutions, and in many cases from points at a greater distance than the distance between such institutions and the City of Boston. If the law permits it, an appropriation could be made by the city to pay for the transportation of Boston parents. The amount needed for this purpose would not be more than \$2,000, and probably would not exceed \$1,000. If the city should appropriate the money, Boston parents would be able to make as many visits to the state institutions as they now make to the Suffolk School. Moreover, the visits would be longer in duration, as the rules of the Suffolk School restrict such visits to one-half hour once a month, whereas at the Lyman School a two hours' visit once a month is permitted; at the Berlin Branch of the Lyman School one visit a month is permitted and the visitor may remain all day if he chooses, and at the Shirley School one visit a month is permitted for a time as long as the superintendent sees fit to allow.

2. *Religious Difficulties.*—It is admitted that the opportunities for religious instruction at the Lyman and Shirley Schools are as good as those afforded at the Suffolk School; and no complaints of discrimination against boys of any faith have been made so far as religious instruction at the schools themselves is concerned. On the other hand, it is admitted that the trustees of the Lyman School have not found Catholic homes for as large a percentage of their Catholic boys who have reached the probation period as the trustees of the Boston institution have. Thus, the Superintendent of the Lyman School Probationers, in a report made in August of last year, said :

Of the boys at board, 31 Protestant boys are in Protestant homes, 15 Catholic boys in Catholic homes, and 35 Catholic boys in Protestant homes. . . . Of the boys in the second list, those earning wages and self-supporting, 52 Protestant boys are in Protestant homes, 13 Catholic boys in Catholic homes, and 58 Catholic boys in Protestant homes.

From this it appears that of 121 Roman Catholic boys in the Placing-Out Division of the Lyman School, 93 or 76.8 per cent had been placed with Protestant families, and only 28 or 23.2 per cent. had been placed with people of their own faith. But the list of Suffolk School boys, on November 14 of last year, showed that of the 33 boarded out or indentured all had been placed with people of their own faith, and 29 of these boys were Roman Catholics. Notwithstanding these facts, the reports of the superintendent of the Lyman School indicate that constant efforts are being made to find homes for children in families of their own faith, and the cooperation of Catholic clergymen is earnestly sought. It also appears that even though children are not placed in the homes of people of their own faith, an attempt is made to have such children attend the church to which their parents belong. In such cases the following notice is sent to the pastor:

WESTBORO, MASS.

To the pastor of church,

Owing to our inability to find a suitable Catholic home for

we have temporarily placed him with

Mr.

where he is at work for wages.
at board.

We bespeak your interest and kind offices in his behalf.
He is instructed to attend your church regularly.

Yours very truly,

LYMAN SCHOOL FOR BOYS.

Visitor.

The Finance Commission believes that the trustees of the Lyman School can succeed as well as the trustees of the Children's Institutions Department of Boston in placing children out with families of their own religious faith; and it is confident that after the proposed transfer has been made the placing-out will be conducted

with a scrupulous regard for the religious sentiments of the children, their parents and the entire community. This branch of the work should be transacted so as to leave no possible room for legitimate complaint from people of any religious belief.

3. *Unsuitable Training for City Boys.*—It has been urged that more Boston boys would be taught farming at the state schools, and thus made less fit for city vocations. The commission believes that the opportunities to learn farming, which the state schools afford, would benefit Boston boys who are now denied such opportunities at the Suffolk School. The many advantages of farm training for boys who have lived under unwholesome physical and moral conditions in the city are obvious. There are, however, at the state schools ample facilities for giving industrial training to such boys as are not adapted to farm work. Thus, although the facilities for making shoes at the Suffolk School are better than at the Lyman School, the latter school has greater opportunity for training in carpentry, cabinet work, woodturning, blacksmithing, laundry work, masonry and painting. The facilities for industrial training at the Shirley School seem well adapted for the uses of the class of boys who are sent there. At both institutions there is plenty of land available for the erection of new buildings which may be required to increase the facilities for manual training. At the Suffolk School, owing to the small quantity of land, there are no opportunities for such expansion.

The commission believes that the welfare of the boys who are now sent to the Suffolk School would be promoted in a high degree if they were allowed to embrace the more liberal opportunities for both agricultural and industrial training which the state schools afford.

4. *Family Estrangements.*—It has been said that as the Lyman School trustees place out a smaller proportion of probationers with their own families than the trustees of the Suffolk School do, there would be more estrangements between parents and children if the

Suffolk School boys were put under the control of the trustees of the Lyman School. In the year ending January 31, 1910, about 72 per cent. of the boys released from the Suffolk School on probation were sent to their own homes, and in the year ending November 30, 1909, only about 57 per cent. of those released from the Lyman School on probation were sent home. The purpose underlying the action of the two Boards is the same, namely, to secure for each boy the best home available, both Boards giving great weight to the influence of family life in the development of character. The difference in results seems to be due to the different standards of fitness to receive children which each Board sets for the families of such children. The Finance Commission does not undertake to decide as to which of the two methods is better adapted to reform the boys. It believes, however, that the care and custody of such boys is a proper state function, and that the city of Boston, like all other municipalities in the state, should leave this function to be exercised by the state, confident that it will be exercised in a satisfactory manner.

The commission believes that none of these objections herein enumerated are of sufficient weight to induce Your Honor to refrain from endeavoring to secure the financial advantage to the city and the many advantages to the boys which would result from the transfer in question.

THE ADVANTAGES OF THE TRANSFER.

1. At the Lyman and Shirley Schools the boys are distributed in cottages, thus removing to some extent the institutional appearance of the schools and giving them a greater resemblance to family life. The boys thus housed are more comfortable and at the same time are brought under better discipline than if a large number of them were confined to one building. On the other hand, all the boys at the Suffolk School, except a few who are kept in a small building at the

Point, are housed in one main building built more than eighty years ago, formerly used as an almshouse, and resembling a prison more than a modern reform school.

At the Suffolk School there is far less opportunity than at the state schools for grouping the boys according to age and conduct. At the former school the separation of the younger and more innocent from the older and more hardened offenders — a vital feature in enlightened correctional work — cannot be effected to the extent that is necessary.

2. The bathing facilities at both the Lyman and Shirley Schools are superior to those at the Suffolk School. At the Lyman School there is a swimming pool of 56,000 gallons capacity and shower baths in the gymnasium. At both the Lyman and Shirley Schools there is a shower bath in every cottage. At the Suffolk School, however, the shower baths are located in a washroom in the basement of the main building and must serve not only all the boys who are housed in the main building, but also those who are kept in the small building at the Point.

3. The facilities for recreation at the state schools are greatly superior to those of the Suffolk School. There are more opportunities for baseball, football, skating, coasting and other out-door sports. At the Shirley School the boys have plenty of open space to play in; they have one regular playground; they also have sitting rooms in each cottage, and in one of the cottages a large playroom which occupies the entire basement. At the Lyman School there is a gymnasium 60 by 50 feet, and each cottage has a playground of its own. There is a sitting room and a basement playroom in each of the cottages except two or three of the older ones.

In all these respects the Suffolk School is deficient. It has no gymnasium. It has only one regular playground one and one-half acres in size. There is one playroom 30 by 76 feet in the main building, and a

playroom 18 by 45 feet connected with the small building on the Point. There are no sitting rooms in either building. In short, as compared with the state schools, the recreation facilities at the Suffolk School are decidedly inferior.

4. In respect to the amount of land at the city and the state institutions, the opportunity for erecting additional buildings, and the relative amount of room per inmate, the state schools are vastly superior to the Suffolk School, as shown in the following table:

SCHOOL.	Acres.	Inmates.	Acres per Inmate Approximately.
Suffolk.....	11	106	$\frac{1}{6}$
Lyman.....	259	320	$\frac{1}{2}$
Shirley.....	889	177	$9\frac{1}{2}$

In respect to the hospital facilities, the medical treatment of inmates, the facilities for general education and for religious devotion, the state institutions are at no disadvantage as compared with the Suffolk School for Boys, and in none of these respects would the Suffolk School boys suffer should the suggested transfer be made. In many other respects already noted the condition of the boys would be greatly improved by the transfer.

The commission has noted that in 1908 a committee of the Common Council made a report which recognized the unfitness of the existing buildings and the lack of necessary buildings for the purposes of the Suffolk School, but recommended its retention by the city, a recommendation apparently based largely upon the belief that the additional land required could be obtained by filling in along the waterfront. In 1909 an appropriation of \$5,000 was made for filling in, but as the lowest price bid for filling in a single acre was far in excess of the total appropriation the project was abandoned.

Successive boards of trustees have been of the opinion that the school at Rainsford Island should be abandoned, the only difference of opinion among them being as to whether the duty of caring for such boys should be taken over by the state or whether the city should continue the work by providing a new school on the mainland. The cost of such a new school, however, seems to have been regarded by the city government as prohibitive. To provide for these boys according to modern standards would require four cottages, a school, a hospital, a gymnasium, officers' quarters, several shops for use in industrial training, machinery, tools, furniture and other equipment. The plant, exclusive of the land, would cost from \$250,000 to \$300,000. A way to meet this heavy expense was provided by chapter 359 of the Acts of 1901, which authorized the City Treasurer to issue bonds to the amount of \$300,000 for this purpose, the act to become effective upon acceptance by the City Council. The act was never accepted and no effort has since been made to provide a new school on the mainland.

Since 1905 a minority of the Board of Trustees has persistently urged the abandonment of the Suffolk School and the transfer of its functions to the state. In a report for the year 1909-10, three of the seven trustees stated their views as follows:

For some years there has been a growing conviction on the part of the undersigned members of the Board of Trustees that the time has come for the city to abandon the Suffolk School.

Beginning in 1905, for the last five years we have been calling attention to the utter inadequacy of the institution for the work it is supposed to do. Out of date, out of repair, and needing so much to bring the school up to standard as to be out of the question from any economic point of view, the institution is kept going almost entirely through the personality of the superintendent and some of his staff.

It is costing the city more per boy to give less advantages and training than the state for the same class of work.

In the Lyman School and in the new industrial school for boys at Shirley, the state has now established and maintains institutions capable of giving this class of boys of the whole state suitable accommodation and training.

Boston is paying approximately 40 per cent. of the expense of these schools and has equal privilege with the rest of the state to have its boys taken care of in these institutions. Yet Boston insists on duplicating these expenses to run its own local school as a survival of an old system that has long disappeared from the rest of the state. There is not a single argument to justify this, yet it remains as a monument of the inertia that handicaps a modern city's development when the improvement calls for cutting salaried places from the city pay roll.

The boys would have better facilities for being trained in the state institutions at less cost. The distribution of the state boys among the Lyman School, Shirley School, and Concord Reformatory offers a greater protection to the individual youth and better facility for the adequate handling of the needs of certain boys than can be afforded at the Suffolk School where 150 boys are placed together more or less entirely on an age basis. It must be only a question of time when the city abandons this waste of money and of youths. We recommend that it be now, and that the Legislature of 1910 be asked for authority to transfer to the Lyman and Shirley Schools the boys now at Rainsford and that the Suffolk School be abandoned.

The Finance Commission agrees with the views expressed in Your Honor's letter of September 24, 1910, which quotes an extract from the minority opinion and in commenting upon it states that you "do not find that the majority report fairly meets and answers this criticism."

PLACING-OUT DIVISION.

In the course of its investigation the attention of the Finance Commission was called to another duplication by the Children's Institutions Department of work performed by the state, namely, the placing out of children directly committed to the trustees by the courts. The neglected and dependent children from all municipalities

in the Commonwealth, except the City of Boston, are committed to the custody of the State Board of Charity. It is only in the City of Boston that a local agency is maintained for the placing out of such children. Here neglected and dependent children are committed to the custody of the Children's Institutions Trustees, and by them placed out in homes. Most of the objections which have already been discussed with reference to the transfer of the Suffolk School to the state may also be urged against the transfer of the Placing-Out Division of the Children's Institutions Department to the state. The commission has considered these objections and believes that they do not afford sufficient reason for preventing the transfer. Moreover, the city could save an even larger amount of money by the transfer of this function than it could by the transfer of the Suffolk School. Thus, the Placing-Out and Office Division of the department in 1909-10 cost the City of Boston \$96,691.89 and the estimated expense in the present year is \$102,294.85, as against the expenditures for the Suffolk School of \$52,960.97 and \$46,660 for the same years. If both of these functions now exercised by the Children's Institutions Department and costing the city about \$149,000 a year were transferred to the state the city would save hereafter approximately \$96,000 a year. Even if \$2,000 should be appropriated for the transportation of parents as previously suggested, the saving would still be about \$94,000 a year.

PARENTAL SCHOOL.

The Children's Institutions Trustees have, besides the duty of maintaining the Suffolk School and the Placing-Out and Office Division, the duty of maintaining a school for truants, known as the Parental School, at West Roxbury. During the course of the commission's investigation of the question of transferring the Suffolk School to the state, certain immoral practices among the boys at the Parental School were revealed. The commission's counsel, with the aid of an expert

stenographer, conducted an inquiry at the school itself. The testimony taken in this examination has been forwarded to Your Honor. With all the facts in your possession Your Honor is in a position to take any action in the case that seems to be necessary. The commission, for reasons already stated in private communications to Your Honor, does not believe it to be in the public interest to disclose the facts elicited in this investigation; but if Your Honor should take another view of the case there is nothing to prevent a full disclosure by you of all the facts.

The commission respectfully suggests that Your Honor consider the abolition at a later date of the Parental School. It seems probable that an extension of the School Committee's present system of disciplinary classes and a further improvement in the methods of truant officers would render the maintenance of the Parental School unnecessary.

LEGISLATION REQUESTED.

The commission reached its conclusions respecting the proposed transfer shortly before the time expired in which bills could be introduced in the Legislature, and, as the transfer must be authorized by the Legislature, the commission filed a bill and petition requesting such authority. A copy of the bill is hereto annexed. Its purpose is to reduce gradually the number of inmates of the Suffolk School by prohibiting commitments thereto after the date of the passage of the bill, and by transferring the present inmates to the state schools from time to time. The transfer of the inmates is to be made by the trustees of the Children's Institutions Department with the consent and approval of the State Board of Charity.

The bill also provides that the Children's Institutions Trustees shall not accept further commitments or applications for the care of neglected or dependent children, and that all future commitments of such children and applications for the custody of them shall

be made to the State Board of Charity. It is provided that all powers and duties of the trustees of the Children's Institutions Department respecting the placing out of children committed to their care or committed to the Suffolk School shall be exercised and performed by the State Board of Charity. It is also provided that if the number of inmates of the Suffolk School shall be reduced to fifty at any time within two years the remaining inmates shall be placed out, transferred, or released, and the Suffolk School for Boys thereupon discontinued. At the end of two years the remaining inmates, whether more or less than fifty, shall be removed from the Suffolk School and the school thereupon abandoned.

Respectfully submitted,

THE FINANCE COMMISSION,

by JOHN A. SULLIVAN,

Chairman.

THE COMMONWEALTH OF MASSACHUSETTS.

In the Year One Thousand Nine Hundred and Eleven.

AN ACT RELATING TO THE SUFFOLK SCHOOL FOR BOYS,
AND THE TRANSFER OF CERTAIN POWERS AND
DUTIES FROM THE CHILDREN'S INSTITUTIONS
DEPARTMENT OF THE CITY OF BOSTON TO THE
STATE BOARD OF CHARITY.

*Be it enacted by the Senate and House of Representatives
in General Court assembled, and by the authority of
the same, as follows:*

SECTION 1. No commitment of any child shall hereafter be made by any court to the Suffolk School for Boys. Boys in the city of Boston who, under laws existing at the time this act takes effect, might be committed to the Suffolk School for Boys, may instead thereof be committed according to their ages, and

subject to the provisions of law governing such commitments, to the Lyman School for Boys or to the Industrial School for Boys, or to any other institution authorized by law.

SECTION 2. After the expiration of thirty days from the time when this act takes effect, all powers and duties conferred by law upon the trustees of the Children's Institutions Department of the city of Boston, respecting the placing out of children committed to their care or committed to the Suffolk School for Boys, shall be exercised and performed by the State Board of Charity.

COMMUNICATION TO THE MAYOR IN RELATION TO THE CONSUMPTIVES' HOSPITAL DEPARTMENT.

Boston, February 16, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,— On September 17, 1910, Your Honor requested the Finance Commission to investigate and report upon the economic and social problems referred to in a letter from the chairman of the Consumptives' Hospital Trustees, which had been sent to Your Honor on September 15, 1910, and a copy of which was sent to the commission.

The problems thus referred to the Finance Commission for investigation are as follows:

1. Whether the financial relations of the Commonwealth and the City of Boston, arising out of their efforts to prevent the spread of tuberculosis, should be readjusted.
2. Whether the officials of the City of Boston have neglected to employ existing means of preventing the spread of tuberculosis.
3. Whether the Boston Consumptives' Hospital should be under the control of the Boston Board of Health.
4. Whether a means can be provided for preventing the abuse of medical charity in Boston.
5. Whether the existing laws relating to the preservation of the public from the dangers of tuberculosis should be amended and new means of preventing the spread of the disease be provided.

Most of the questions involved in the last of these problems have been referred to the state commission appointed under chapter 76 of the Resolves of 1910, as appears from the following extract from the resolve:

Resolved: That a commission, consisting of the chairman of the state board of health and six others to be appointed by the governor, two each from the state board of health, the state board of charity, and the state commissioner on consumptive hospitals, is hereby instructed to investigate the means and methods now employed by the state and by local communities in caring for tubercular patients in hospitals, sanatoriums and dispensaries and, if it be found advisable, to report a plan which, by correlating the said means and methods, will prevent duplication and waste of effort. Said commission shall investigate and report particularly as to the relationship between this state and its municipalities in the care of tubercular patients, both in respect to the classes of cases cared for and to the apportionment of the financial burden caused thereby;

As to the proper use, so far as the care of tuberculosis is concerned, of the state institutions at Rutland, North Reading, Lakeville, Westfield and Tewksbury;

As to the relation which such state institutions should bear to hospitals for tubercular patients maintained by cities and towns;

As to the power of the state board of health to require cities and towns to establish such hospitals;

As to the advisability of modifying or repealing the settlement laws so far as the same apply to diseases dangerous to the public health;

As to the advisability of supplying tubercular patients with food at their homes, and the best means of so doing, if to do so be deemed advisable;

As to the advisability of establishing dispensaries for the discovery, supervision and treatment of cases of tuberculosis by the agency of local boards of health.

The state commission has made the investigation, and under date of November 1, 1910, submitted an elaborate report to the Governor of the Commonwealth, copies of which have been furnished to the members of the present Legislature.

The Finance Commission was established for the purpose of investigating and publishing the financial and departmental methods of the City of Boston and the County of Suffolk; and while all the problems

referred to the commission have some relation to the city's finances, the character of some of them is chiefly medical and only incidentally financial, and they are, therefore, more appropriate subjects for investigation by medical experts than by a nonmedical board like the Finance Commission. The Finance Commission concluded that it need not attempt an investigation of the problems involved in the last question referred and consequently has confined its inquiry to the other four questions.

I. THE READJUSTMENT OF THE FINANCIAL RELATIONS OF THE COMMONWEALTH AND THE CITY OF BOSTON.

1. *Boston's Excessive Burden.*

This question has been referred to the Finance Commission by Your Honor as a result of the claim made by the chairman of the Boston Consumptives' Hospital Trustees that the city is bearing more than its share of the general burden of providing care and treatment of persons afflicted with pulmonary tuberculosis, or consumption, and of checking the spread of this disease.

This claim is founded upon the fact that Boston has maintained its own consumptives' hospital at great expense while paying, through the state tax, about one-third of the cost of similar hospitals maintained by the state, whereas few of the other municipalities in the state maintain consumptives' hospitals, preferring, for reasons of economy, to send their patients to the state institutions. Boston, Brookline, Cambridge, Fall River, Lawrence, New Bedford and Salem have established local hospitals for consumptives. But other municipalities, including such large cities as Worcester, Lowell, Lynn, Springfield, Somerville, Holyoke and Brockton have failed to establish consumptives' hospitals.

During the time that the state institutions at Rutland, North Reading, Lakeville and Westfield have been in existence, Boston has furnished on an average much less than one-third of the patients therein treated,

but it has paid more than one-third of the state tax for the support of such institutions. This, in itself, would probably not be considered a just cause for complaint. But having established its own local hospital Boston may justly demand either that the cost of the state institutions be diminished hereafter through a reduction in the number of patients sent from other cities and towns, such reduction to be effected by the establishment of local hospitals in such cities and towns, or that the state make special provision for compensating Boston for the extraordinary expenses it has already incurred in the establishment and maintenance of its consumptives' hospital, and the expense it will be obliged to incur in the future.

The expense incurred for Boston's Consumptives' Hospital Department, up to February 1, 1911, as shown by the City Auditor's reports, is \$823,668.32, of which \$361,924.84 was expended from borrowed money. The total amount borrowed was \$457,000 and of this only \$95,075.16 is left. The chairman of the Consumptives' Hospital Trustees estimates that \$365,000 will be needed to furnish additional accommodations, as follows:

FOR CONSTRUCTION.

One more concrete building for dying cases, which when completed will give a total minimum bed capacity for cases of this type of 200 cases	\$90,000 00
For completion of accommodations for 150 more patients in the cottage ward type of hospital	75,000 00
To construct wards for care of 50 children	50,000 00
Additions to domestic, administration and admission buildings and nurses' quarters	100,000 00
For repairs on grounds, machinery, etc., and incidentals	50,000 00
	<u>\$365,000 00</u>

If this plan is carried out the city will probably be obliged to spend the \$95,000 of unexpended loan money and to borrow \$270,000 more, thus making the total loans for its Consumptives' Hospital Department \$727,000. He also estimates that the annual maintenance appropriation required will be \$225,000.

In addition it should be noted that the city's Health Department also makes large expenditures for the board of consumptives at the state institutions. Excluding payments through the state tax, Boston, with about one-third of the population of the cities of the state, has contributed at least five times as much as all other cities in the state combined towards the anti-tuberculosis campaign. This shows clearly that Boston's share of the general burden has been far greater than it should have been upon the basis of either population or valuation, and that it is justified in asking for a readjustment of the existing financial arrangements between the state and the cities and towns therein.

2. *Suggestions for Removing this Inequality.*

Various plans have been suggested for relieving Boston of similar burdens in the future. The Mayor of the City of Boston has introduced a bill (Senate No. 82) which provides for the transfer to the Commonwealth after the first day of January, 1912, of "the care and control and treatment of all persons afflicted with tuberculosis or consumption who are now cared for by the City of Boston or by any board or officers thereof." It is further provided that the City of Boston shall not hereafter establish any hospital, sanatorium, or other institution for the care of said patients, or after said date maintain any such institution or be liable for the board, care or treatment of any such person. It is further provided that the Boston Consumptives' Hospital shall, after said date, be governed by a Board of Trustees appointed by the Governor with the advice and consent of the Council; and that the state shall take the lands and buildings of the Boston Consumptives' Hospital and pay the city for the same.

The purchase by the state of the Boston Consumptives' Hospital, thus recommended by the Mayor, is urged on the ground that it is in line with the prece-

dent established by the state's purchase of the Boston Insane Hospital, as recommended by the former Finance Commission. The two cases are not alike, however. The City of Boston, unlike all other municipalities in the state, maintained at its own expense an insane hospital, the state also maintaining hospitals for insane patients. When the state took over the Boston Insane Hospital it was not asked to establish local hospitals in other municipalities for the care of the insane in such municipalities. But the purchase by the state of the local Consumptives' Hospital already established by Boston and of similar hospitals established in other cities would inevitably lead to demands from all other municipalities that the state erect and maintain local hospitals for them. These demands would be strongly urged on the ground that consumptives in the advanced stages of the disease can be induced to enter a local hospital where their friends may visit them, but cannot be persuaded to go far away from home, and consequently would remain in their homes, thus endangering all about them, unless a local hospital were available.

It should also be noted that the action of the City of Boston in establishing and maintaining its consumptives' hospital was entirely voluntary. While the law requiring the establishment by cities of isolation hospitals for dangerous diseases was passed in 1901 (Acts of 1901, chapter 171) tuberculosis was not included in the list of diseases dangerous to the public health until August 1, 1907. There was not, prior to the latter date, any requirement of law for the establishment by a city of a hospital for pulmonary tuberculosis or tuberculosis in any form. The idea of establishing a consumptives' hospital in Boston was conceived six years before the State Board of Health declared tuberculosis to be a disease dangerous to the public health. On July 3, 1901, the Mayor and City Council authorized a loan of \$150,000 to provide land and buildings for a consumptives' hospital. The loan was not issued, however,

until 1906. In that year, one year prior to the action of the State Board of Health, the land was acquired for a site and \$66,896.18 was expended on the project. Boston, therefore, incurred this expense by its voluntary action and not because of any mandate of the state.

Before Boston incurred this expense it had as now equal rights with all other cities and towns in the Commonwealth to send its consumptives to the State Sanatorium at Rutland, which was established in 1898; rights of which it availed itself both before and after the establishment of its own hospital. It also has had and still has equal rights with all other cities and towns in the hospitals later established by the state at North Reading, Lakeville, Westfield and Tewksbury. It does not seem to the Finance Commission that Boston's demand that the state shall reimburse it for the cost of its hospital at Mattapan will receive favorable consideration from the Legislature, as it would logically lead to the purchase of the local hospitals established by Brookline, Cambridge, Fall River, Lawrence, New Bedford and Salem. The cost of the purchase and maintenance of these hospitals, added to the cost of erecting and maintaining local hospitals in other communities, would be tremendous.

3. *The State Commission's Plan.*—The state commission suggests a means of relieving Boston and other cities which have established their own consumptives' hospitals of a portion of the expense. It urges the need of local consumptives' hospitals for the treatment of advanced cases, meanwhile recommending the encouragement of private enterprise and philanthropy in the same field. On page 15 of its report it says: "It is the general belief that the tuberculosis problem in its entirety is too great for private enterprise. The time is come for the community and the boards of health to shoulder the responsibility that rightfully belongs to them. The community should enter this field because in the long run its work is more uniform, more lasting and more thorough. In the problem of tuberculosis

the municipal authority has legal power to remedy many of the attendant and contributing evils of tuberculosis." The Finance Commission believes that this policy should be definitely established and maintained. The state may well be asked to compel all cities and the more populous towns to provide such hospitals at their own expense. Until they are so provided, the municipalities which have already established such hospitals at their own expense should be given adequate compensation in some form for the extraordinary burdens which they have assumed. As already stated, however, the Finance Commission believes that this compensation should not include the purchase by the state of such local hospitals, but that it should be confined to relieving such municipalities of a share of the cost of maintenance.

The state commission also suggests that all cities and towns which maintain their local hospitals be paid by the state \$5 a week, or approximately one-half the expense of maintenance of all nonpaying patients in the local hospitals; and it is also suggested that all cities and towns in the Commonwealth pay to the state \$5 a week, or approximately one-half the cost of maintenance of all nonpaying patients in the state hospitals who have a legal settlement in such cities and towns. This plan would be an improvement upon the existing arrangement, for while it would increase the payments by municipalities from \$4 to \$5 a week for patients at Rutland, North Reading, Lakeville and Westfield, it would give to the cities and towns which maintain their local hospitals \$5 a week for nonpaying patients, whereas they receive nothing from the state now. In the opinion of the Finance Commission the proposed remedy, however, is not adequate, as it still discriminates against the cities and towns which maintain their local hospitals and in favor of the municipalities which neglect to perform that duty, inasmuch as it does not take into account the capital investment of cities and towns in their local hospitals. The Finance Commission believes that it is equitable to require all cities and towns

which send patients to the state hospitals to pay one-half the cost of their care; but it also believes that the cities and towns which maintain their local hospitals should receive some payment in addition to the \$5 per week for each patient therein treated.

II. ALLEGED NEGLECT OF THE CITY AUTHORITIES.

The letter of the chairman of the Boston Consumptives' Hospital Trustees states: "While the city permits the sanitary and educational effort, which is essentially the duty of the Health Board, to remain unattended to or inefficiently performed, the money spent on tuberculosis is only an attempt to patch up a decrepit population upon whom disease and deterioration have already done their worst. As the situation stands to-day the city is spending money lavishly on one hand caring for consumptives, while it is creating on the other hand, through neglect and incompetency, more than it is curing."

The particulars of the alleged neglect are as follows:

1. The alleged failure to enforce the law against expectoration in public places.
2. The alleged failure to improve tenement house conditions so as to prevent the rise and spread of consumption.
3. The alleged failure to provide proper ventilation in the public schools and to provide a sufficient number of "open-air" rooms in the schools.
4. The alleged failure to make the physical examination of school children required by chapter 502 of the Acts of 1906, to determine whether they are suffering from any disability or defect tending to prevent them from receiving the full benefit of the school work.

1. *Expectoration in Public Places.*— It is said that many consumptives expectorate in public places and thus violate the law (1906, chapter 165; 1907, chapter 410; 1908, chapter 150), but that comparatively few offenders are prosecuted. The Finance Commission

recognizes the danger of transmission of germs from the sputum of consumptives, but it has no means of enforcing the law against expectoration in public places. If the Consumptives' Hospital Trustees deem strict enforcement possible, or that stricter enforcement than is now given is necessary, it can request the cooperation of police officials with more assurance of success than a nonmedical body like the Finance Commission. If more stringent laws are needed the Mayor might be asked by the Consumptives' Hospital Trustees to file the necessary petition with the Legislature.

2. *Tenement House Conditions.*—The commission believes that there has been a failure to improve tenement house conditions to the extent required in the interests of public health. The obvious remedies are better tenement house laws and strict enforcement of them. The former is a proper subject of study by a special commission; the latter is the immediate concern of the Board of Health. No evidence of neglect to enforce existing tenement house laws has been presented to the Finance Commission. If the Consumptives' Hospital Trustees have such evidence, it should be presented to the Mayor, who should demand strict enforcement in the interests of the entire community.

3. *Ventilation of School Buildings; Open-Air Classes.*—The Finance Commission, as a result of its own observation and the statements of others, believes that there is improper ventilation in some of the schools. In some cases it is due to inadequate facilities, in others to the fear of fresh air. The commission also believes that the "open-air" school room has been a successful experiment, and that more of such rooms should continue to be provided by the School Committee.

4. *Physical Examination of School Children.*—No complaint is made as to the manner in which tests of the sight and hearing of school children have been made, under section 5, chapter 502, of the Acts of 1906; but it is contended that a physical examination sufficiently thorough to determine whether children are tuberculous

has not been made. The commission believes the statute in question is broad enough to require such an examination. The Board of Health admits, however, that such examinations have not been made up to last month. Various reasons were given by the Board of Health for the four years' delay to comply with the statute, but in the opinion of the commission none of the reasons is adequate. It is probable, however, that the necessity of such an examination as a means of preserving the public health has been exaggerated. The chairman of the Consumptives' Hospital Trustees estimates that 5,000, or approximately 5 per cent. of the public school children of Boston, are "definitely tuberculous," and that 50,000, or about one-half of all the school children, have ailments "that will probably finally make for tuberculosis." But a recent examination of 2,602 of Boston's public school children, between the ages of fourteen and sixteen, has been made under another statute (1910, chapter 257) and it showed only 15 cases, or slightly above one-half of 1 per cent. of the whole number, in which "suspicious symptoms of present or impending tuberculosis were found." The examination was made in each of the last six months and the results are stated in a letter of the chairman of the Board of Health, a copy of which is hereto annexed. The physical examination of school children required by the law of 1906 will soon be made by the Board of Health, according to the statement of its members. When the number of children who are tuberculous is thus ascertained, the means of providing for the care and education of such children should be carefully studied by the city's health authorities and the School Committee.

III. THE TRANSFER OF THE CARE OF BOSTON'S CONSUMPTIVES' HOSPITAL FROM THE BOARD OF CONSUMPTIVES' HOSPITAL TRUSTEES.

Various suggestions have been made for transferring the jurisdiction over the city's Consumptives' Hospital

from the present board to the state or city Board of Health or to the City Hospital Trustees. The Finance Commission believes that the city should retain jurisdiction of its Consumptives' Hospital, but that it should be under the supervision of the State Board of Health. It also believes that nothing would be gained by transferring the control of the hospital from the present board to the City Hospital Trustees; nor is it prepared to recommend a transfer to the city Board of Health. It may be urged that the city Board of Health, which is the local central health authority, should have the management of all hospitals within the city. The Finance Commission believes, however, that the time for considering this transfer has not arrived. The subject may well be considered at a later period, when it is hoped the city Board of Health will be strengthened. The Finance Commission has frequently urged the appointment, as a third member of the board, of a person qualified by education, training or experience for the performance of his duties, but so far without success.

IV. THE ABUSE OF PUBLIC CHARITY.

The Consumptives' Hospital Trustees represented to the Finance Commission that many persons are admitted free to the various hospitals maintained by the city who are able to pay for treatment, and suggested that the Finance Commission investigate this question. The Finance Commission believes that it would be a profitable subject of investigation, but suggests that it would be made better by the trustees of the various hospitals themselves, as they have far more intimate knowledge of the facts than the Finance Commission could possibly acquire even after a long investigation.

The commission believes that chapter 4 of the City Ordinances of 1909 should be repealed, so that only inhabitants of Boston for at least two years be given admission to the Consumptives' Hospital, instead of leaving it open, as now, to any person from other parts of New England, or even from Canada, who may wish

to take a residence in Boston for a period long enough to obtain free treatment, and perhaps for that purpose only.

The commission recommends:

1. That the Mayor urge the Legislature to adopt a plan for relieving Boston that is more equitable than the subsidy plan proposed by the state commission.

2. That the examination of school children for the purpose of ascertaining the existence of tuberculosis be made by the city Board of Health as speedily as possible.

3. That the School Committee take further steps to provide better ventilation in the public schools, and that the policy of establishing open-air rooms for sickly children be continued and extended.

4. That the city retain its Consumptives' Hospital at Mattapan, under the control of the Consumptives' Hospital Trustees, subject to the supervision of the State Board of Health.

5. That the Mayor request the trustees of the various city hospitals to make a thorough investigation of the extent to which the city's hospitals are used by people who can afford to but do not pay for treatment.

6. That chapter 4 of the Ordinances of 1909 be repealed.

Respectfully submitted,

THE FINANCE COMMISSION,

by JOHN A. SULLIVAN,

Chairman.

HEALTH DEPARTMENT, OLD COURT HOUSE,
BOSTON, February 7, 1911

HON. JOHN A. SULLIVAN,

Chairman Finance Commission, Boston, Mass.:

DEAR SIR,—In compliance with your request, I beg to make the following statement:

Under chapter 502, Acts of 1906, as amended by chapter 257, Acts of 1910, a physician appointed by the Board of Health is required to examine such children between the ages of fourteen and sixteen years as have secured from the School Committee an employment ticket. This requirement of the Legislature went into effect August 1, 1910. The examinations for the first six months ending January 31, 1911, were as follows:

August	391	<i>Brought forward</i>	1,897
September	768	December	351
October	411	January	354
November	327		<hr/>
			2,602
<i>Carried forward</i>	1,897		<hr/>

These have been general physical examinations, and as to the finding of evidences of tuberculosis, it may be said that there were found in

August	1	November	3
September	3	December	1
October	3	January	4

cases in which suspicious symptoms of present or impending tuberculosis were found and, although insufficient to warrant a positive diagnosis, were cases calling for further examinations and proper surveillance.

Yours very truly,

S. H. DURGIN, *Chairman.*

COMMUNICATION TO THE GENERAL COURT IN RELATION TO THE INDEBTEDNESS OF THE CITY OF BOSTON.

Boston, February 18, 1911.

*To the Honorable the Senate and House of Representatives
in General Court Assembled:*

In the annual report to the Legislature made by the Finance Commission, under date of January 20, 1911, the commission stated that the subject of the city's debt would be treated in a later communication after the close of the city's financial year, when the complete figures had become available, and the commission herewith submits a report upon the same.

The net debt of the city up to the close of its financial year, January 31, 1911, has been ascertained; but the city's share of the state and metropolitan district debts has not been ascertained beyond November 30, 1910, the close of the state's financial year, as the figures for the period beyond the latter date are not yet available. The city's debt, including its share of the state and metropolitan district debts, has therefore been computed as of November 30, 1910.

1. INCREASE IN THE TOTAL NET INDEBTEDNESS OF THE CITY.

The city's share of the net state and metropolitan district debts on November 30, 1910, was \$6,936,130.48 and \$36,125,161.49, respectively, a total of \$43,061,291.97. Between January 31, 1910, and November 30, 1910, the city's share of the metropolitan district debt has been reduced from \$36,427,575.11 to \$36,125,161.49, a reduction of \$302,413.62; in the same period the city's share of the state debt has increased from \$6,721,727.10

to \$6,936,130.48, an increase of \$214,403.38. The city's share of both classes of debts has, therefore, been reduced in this period \$88,010.24.

The net city and county debt increased in the same period from \$71,345,972.58 to \$73,198,701.40, an increase of \$1,852,728.82.

The total net indebtedness of the city, including its share of the state and metropolitan district debts, was \$116,259,993.37 on November 30, 1910, as compared with \$114,495,274.79 on January 31, 1910, an increase of \$1,764,718.58. A table showing the debt at the two periods in question divided into the various classes is hereto annexed and marked Appendix A.*

2. INCREASE IN NET CITY AND COUNTY DEBT.

The increase in the net indebtedness of the city and county for the entire fiscal year 1910-11 was \$1,582,677.93, it having risen from \$71,345,972.58 on January 31, 1910, to \$72,928,650.51 on January 31, 1911. Exclusive of the net debt incurred for rapid transit purposes the net city debt at the beginning of the year was \$56,777,630.06, and at its close \$57,668,427.93, an increase of \$890,797.87. This increase has not been due to lack of care on the part of the city government in the authorization of loans during the last year. On the contrary, as the commission has already stated in its annual report to the Legislature, the loan bills of this year have been given most careful consideration and no general loan bill has been passed. The refusal of the City Council to pass a general loan bill is regarded by the Finance Commission as the most important reform of the past year. Such loan bills have been passed in former years by log-rolling practices and by promises of patronage, practices which resulted in largely and unnecessarily increasing the city's debt. Each loan passed in the last year, however, has been

* These figures do not include the city's share of the debt incurred for the Charles River Basin improvements, as the expense has not yet been apportioned.

separately considered on its merits, and many loan items which were either unnecessary or, though possessing some merit, could not be justified in the existing state of the city's finances, were rejected. The result of these improved methods respecting loans is that on December 31, 1910, there was left within the borrowing capacity \$1,036,545.71, most of which would have been borrowed if the former careless methods which characterized the authorization of loans had prevailed.

A comparison of the amounts left unborrowed on December 31 of each of the last ten years shows that in only five of these years an amount was left unborrowed equal to the amount which the City Auditor and the Finance Commission believe should be retained as a reserve to meet emergencies, viz., \$500,000. In 1901, 1903, 1904, 1906 and 1910 the amounts left unborrowed were as follows:

<i>December 31.</i>	
1901	\$1,490,346 01
1903	1,100,640 33
1904	682,400 00
1906	915,019 60
1910	1,036,545 71

In other years the amounts left unborrowed were as follows:

<i>December 31.</i>	
1902	\$367,167 74
1905	37,518 74
1907	52,657 17
1908	372,438 17
1909	301,146 53

In making this comparison December 31 has been chosen, as prior to the adoption of the charter amendments of 1909 the terms of the Mayor and members of the City Council ended on the first Monday in January.

The total amount of loans authorized by the Mayor and City Council in the past year is \$2,767,500, as shown in a table hereto annexed and marked Appendix B.

As the total amount of loans issued in the year 1910-11 was \$4,615,500, and the loans authorized during the year amounted to only \$2,767,500, it is apparent that the increase in the net city debt was not due to the loans authorized in the past year, but was rather due to loans issued last year which had been authorized in preceding years. Of the \$4,615,500 borrowed last year, \$1,000,000 was for rapid transit purposes, \$1,000,000 for land and buildings for schools, \$300,000 for sewerage works, \$674,000 for separate systems of drainage, and \$1,641,500 for various municipal improvements, all as shown in Appendix C hereto annexed. For the rapid transit, school and separate systems of drainage loans the City Council is not responsible, as these loans are required by statute. An analysis showing the loans to which the last year's increase in debt is due would be long and not proportionately valuable. In general terms it may be stated that the increase was inevitable, due chiefly to a combination of several items, inherited from past years, which were actually issued this year, and that it is not an indication of a return to the alarming condition of growing debt which formerly prevailed.

3. LEGISLATIVE AUTHORITY FOR ADDITIONAL LOANS.

The foregoing review shows that despite the care exercised by the present city government there has been an actual increase of nearly \$900,000 in the net debt of the city, exclusive of the state, metropolitan district and rapid transit debts. This fact indicates that even greater care must be taken hereafter in order that the present heavy indebtedness of the city may be reduced. The Legislature should cooperate with the city to this end.

It has been charged frequently that the Legislature has forced the city to borrow money and that a large

part of the heavy indebtedness of the city is due to such action. The commission believes that comparatively few of the loans authorized by the Legislature in the past have been forced upon the city, but that the greater part of them have been authorized as a result of petitions filed either by the Mayor of the city for the time being or by its representatives in the Legislature. Notwithstanding the fact that most of the legislative acts affecting the city's debt have been permissive rather than mandatory, the fact that they were permissive has often been forgotten at a later period, and officials of the city have taken advantage of this situation by stating that the city's heavy debt is due largely to loan acts thrust upon the city by the state.

The commission believes that the Legislature should, as far as possible, avoid even the appearance of compelling the city to increase its indebtedness, and suggests, as a means of accomplishing this purpose, that all future bills in the Legislature providing for the issuing of loans by the City of Boston be passed subject to acceptance by the Mayor and City Council. The question whether the city's financial condition warrants any particular loan can better be decided by the Mayor and City Council than by a committee of the Legislature or by the Legislature itself. The commission believes that if future bills are passed subject to acceptance by the Mayor and City Council the responsibility will be more definitely fixed, fewer loans will be issued and the city's financial interests will be better protected.

In this connection the commission respectfully calls the attention of the Legislature to the fact that there are several bills now pending which, if passed, would operate to increase the city's debt and thereby add to the burdens of its taxpayers. The following list shows the numbers of these various bills, the amounts which they authorize, the purposes for which the loans are sought, and whether they are inside or outside the statutory limit of indebtedness:

NUMBER.	Amount.	Purpose.	DEBT LIMIT.	
			Inside.	Outside.
House, 1003.	\$60,000 00	Playground at Governor's Island . . .	..	Outside.
House, 576.	300,000 00	Addition to City Hospital . . . . .	..	Outside.
House, 446.	1,100,000 00	City Hall Annex. . . . .	..	Outside.
Senate, 295 . .	1,000,000 00	High pressure water service.	Inside.	
House, 400 . . .	(Amount not stated.)	Widening Pleasant street to Tremont street.	Inside.	
House, 720	100,000 00	Widening Pleasant street to Park square.	. . . .	Outside.
House, 811 . . .	(Amount not stated.)	Street connecting Huntington avenue with Audubon road.	Inside.	
House, 812 . . .	(Amount not stated.)	Extension of Boylston street across Back Bay Fens.	Inside.	
House, 1207 . .	100,000 00	Playground, Ward 5. . . . .	. . . .	Outside.
Senate, 196	100,000 00	Bath house and gymnasium at Tenenbrook.	Inside.	

The amounts stated in these various bills aggregate \$3,560,000, a sum which would be substantially increased if House Bills 811 and 812, in which the amounts are not stated, should pass. The seven bills which name amounts provide for the borrowing of \$1,100,000 inside and \$2,460,000 outside the debt limit.

LOANS OUTSIDE THE DEBT LIMIT.

Both the former and the present Finance Commissions have repeatedly urged that the policy of borrowing money outside the debt limit be discontinued, and the Legislature itself, by chapter 315 of the Acts of 1909, revoked all authority previously given under any special statute to borrow outside the debt limit, except so far as the issuance of such loans might be necessary to pay amounts due on contracts made prior to June 1, 1909, or to pay executions of court on suits brought under the acts authorizing said loans prior to said date, and also except for rapid transit purposes. As a result of this act the former practice of borrowing outside the debt limit has been discontinued,

greatly to the advantage of the city. To authorize loans outside the debt limit now would be to reverse the policy established by the Legislature of 1909 and to impose additional burdens upon the taxpayers of the city. It may be necessary for the Legislature, in exceptional cases, to authorize loans outside the debt limit, but in such cases the legislative acts should be subject to the acceptance of the Mayor and City Council, whom the people of the city hold responsible for its financial condition.

The commission believes, therefore, that House Bills 1003, 576, 720 and 1207 should be rejected by the Legislature. House Bill 446 might well be rejected on the same ground, but the commission believes that it provides for an object which fairly constitutes an exception to the rule that the city should not be authorized to borrow outside the debt limit. This bill provides for an addition to City Hall and calls for an expenditure of \$1,100,000. It is probable that the money could not be provided inside the debt limit without making it difficult to provide other necessary municipal improvements. It may be that the erection of an addition to the City Hall will save the city money, as large amounts are now spent for the rental of quarters outside City Hall. The commission does not pass upon the necessity for the addition to City Hall. The commission believes, however, that the question whether an addition to the City Hall should be provided at all, as well as the question whether if provided it should be by loans inside or outside the debt limit, should be determined finally by the Mayor and City Council. The commission, therefore, respectfully suggests that this bill, if passed, be made to take effect only upon acceptance by the Mayor and City Council.

LOANS INSIDE THE DEBT LIMIT.

The commission also calls attention to the fact that the city has the right, under existing statutes, to borrow

within the debt limit for such objects as are provided for by Senate Bill 196 and House Bills 400, 811 and 812, viz., for street widenings, street construction and a bath house and gymnasium. Therefore, as no further legislative authority is needed, these bills should be rejected.

On the same ground Senate Bill 295, providing \$1,000,000 for a high pressure water service, could be rejected, but as the bill seeks to establish definitely the policy of the city by providing that loans shall be passed in each year until the total amount authorized has been issued, thus insuring the completion of the work, an exception may well be made in this case. Moreover, this bill, unlike the others under consideration, provides that the act shall not take effect until it has been accepted by the Mayor and City Council.

There may be other bills now pending in the Legislature, besides those already enumerated, which are obnoxious to the principles herein defined, and the commission respectfully requests that such bills be considered in the light of the recommendations herein made.

The commission recommends:

1. That, all bills now pending providing for loans for a bath house, playgrounds, hospital, street construction and street widening be rejected, viz., Senate 196; House 1003, 1207, 576, 811, 812, 400, 720.

2. That House Bill 446, providing for an addition to the City Hall, be amended so that the act shall take effect only upon its acceptance by the Mayor and City Council.

Respectfully submitted,

THE FINANCE COMMISSION,

by JOHN A. SULLIVAN,

Chairman.

APPENDIX A.

THE CITY'S NET INDEBTEDNESS, INCLUDING ITS SHARE OF THE STATE
AND THE METROPOLITAN DISTRICT DEBTS.*January 31, 1910.*

City's share of Massachusetts' direct debt	\$6,721,727 10
City's share of metropolitan district debt	36,427,575 11
Net city and county debt	71,345,972 58
Total	<u>\$114,495,274 79</u>

November 30, 1910.

City's share of Massachusetts' direct debt	\$6,936,130 48
City's share of metropolitan district debt	36,125,161 49
Net city and county debt	73,198,701 40
Total	<u>\$116,259,993 37</u>
Total November 30, 1910	<u>\$116,259,993 37</u>
Total January 31, 1910	<u>114,495,274 79</u>
Increase	<u>\$1,764,718 58</u>

APPENDIX B.

LOANS AUTHORIZED BY THE CITY COUNCIL IN THE FINANCIAL YEAR
1910-11.

1910.

Mar. 15.	Park Department, locker building, Franklin Field	\$4,500 00
Mar. 22.	Fire Department, new fireboat, additional	5,000 00
Mar. 29.	Land and buildings for schools	500,000 00
Mar. 30.	Sewerage works	300,000 00
April 12.	Park Department, playgrounds, improvements	\$27,500 00
	Savin Hill Park	2,500 00
		<u>30,000 00</u>
April 12.	Separate systems of drainage	674,000 00
May 17.	Bowdoin street grade damages	49,000 00
May 17.	Highways, making of	300,000 00
May 24.	Neponset Playground, filling and grading	10,000 00
June 6.	High School of Commerce and School Administration Building	300,000 00
July 19.	Old Colony avenue, construction of	28,000 00
July 28.	Chelsea Bridge South	\$80,000 00
	Meridian Street Bridge	125,000 00
	Broadway Bridge, rebuilding draw	115,000 00
		<u>320,000 00</u>
	Carried forward	<u>\$2,520,500 00</u>

<i>Brought forward</i>	\$2,520,500 00
Aug. 24. Curtis Hall, reconstruction of	60,000 00
Oct. 11. Land, Massachusetts avenue and Northampton street, City Hospital	67,000 00
Nov. 16. Fire Department, repair shop	90,000 00
1911.	
Jan. 3. Fire Department, repair shop, additional	20,000 00
Jan. 3. Chelsea Bridge North, preliminary work	10,000 00
	<u>\$2,767,500 00</u>

APPENDIX C.

LOANS ISSUED IN 1910-11, COVERING THOSE AUTHORIZED IN 1910-11
AND IN PRECEDING YEARS.

OBJECT.	Loans.
Bath Department:	
Bath house, Charlestown.	\$30,000 00
Bath house, Orient Heights.	5,000 00
Bathing establishment, Ward 15.	50,000 00
Consumptives' Hospital Department:	
Completion of second ward.	10,000 00
Cottage ward for women	15,000 00
Domestic building	100,000 00
Fire Department:	
Fire Department, repair shop.	90,000 00
Fire station, Laurist avenue district.	15,000 00
Fire station, Oak square and Faneuil section.	15,000 00
New fireboat	5,000 00
New quarters for fireboat crew, Boston side	15,000 00
Highways, Making of.	600,000 00
Hospital Department:	
Estate, Massachusetts avenue and Northampton street	67,000 00
Park Department:	
Franklin Field, locker building, completion of.	4,500 00
Neponset Playground, filling and grading	10,000 00
Playgrounds, improvements.	27,500 00
Playground, Parker Hill.	60,000 00
Playground, Ward 7.	25,000 00
Playground, Ward 16.	25,000 00
Savin Hill Park.	2,500 00
<i>Carried forward</i>	<u>\$1,171,500 00</u>

Object.	Loans.
<i>Brought forward</i>	\$1,171,500 00
Public Buildings Department:	
East Boston Courthouse and Police Station.....	80,000 00
New library building, Ward 22.....	10,000 00
Rapid Transit:	
Cambridge connection.....	500,000 00
Riverbank Subway.....	500,000 00
School Committee:	
Land and buildings for schools.....	1,000,000 00
Streets:	
Broadway Bridge, rebuilding.....	37,000 00
Chelsea Bridge South.....	80,000 00
Meridian Street Bridge.....	125,000 00
Old Colony avenue, construction of.....	28,000 00
Separate systems of drainage.....	674,000 00
Sewerage works.....	300,000 00
Street Laying-Out Department:	
Bowdoin street grade damages.....	49,000 00
Geneva avenue, from Bowdoin street to Columbia road.....	50,000 00
Washington street, West Roxbury (chapter 574, Acts of 1907).....	11,000 00
Total	\$4,615,500 00

COMMUNICATION TO THE MAYOR AND CITY COUNCIL IN RELATION TO BETTER PROTECTION AGAINST FIRE IN THE CITY OF BOSTON.

Boston, March 22, 1911.

To the Mayor and City Council:

GENTLEMEN,— On August 17, 1910, shortly after the fire on Albany street in the lumber district, so called, the Mayor requested the Finance Commission to consider and report upon the following questions relating to the protection against fire in the City of Boston.

1. The establishment in the business district of a high pressure water service.

2. The strengthening of the laws relating to building construction.

3. The establishment of another fire signal station to be used if fire should impair or destroy the efficiency of the present station.

4. Whether it is necessary to appoint 100 more firemen.

The commission submits herewith its report upon these subjects.

1. HIGH PRESSURE WATER SERVICE.

The City of Boston is in some respects well protected against fire losses. The Fire Department force is a good one, the buildings in the city are low as compared with buildings in other large cities in the United States, notably New York, and the water supply is ample. There is now for the protection of a portion of the business district a high pressure service, supplied from salt water mains, operated with the aid of fire boats. These salt water mains extend from Central Wharf through Central street, Exchange place, Post Office square and

Congress street to Congress Street Bridge. Moreover, Boston is surrounded with cities and towns which in the past have furnished valuable aid in extinguishing fires in Boston, and the future cooperation of such municipalities should be taken into account in considering any addition to Boston's fire-fighting equipment.

On the other hand many dangers exist. Many of Boston's streets are narrow, particularly in the business district; there are many old structures in this district that are not of fireproof material; there are many danger spots along the waterfront, and there are great areas in the residential sections filled with tenements and apartment houses that have been constructed with little regard to the possibilities of destruction by fire.

The cost of providing a high pressure service for parts of the city outside the business district would be so great that it ought not to be considered. The fact that the city's net indebtedness, including its share of the state and metropolitan district debts, was \$116,259,993.37 on November 30, 1910, practically prohibits the borrowing of the additional millions that such an undertaking would require. Moreover, the improvement of the building laws in the residential sections, together with the provision of additional ordinary fire apparatus, may solve the problem of fire protection in these sections without recourse to the costlier plan of furnishing a high pressure water service.

The commission believes that the city's financial condition does permit present consideration of the far less expensive establishment of a high pressure water service in the business district. In considering the need of this service the commission has had the benefit of the opinions of several engineers, including Frank A. McInnes of the Department of Public Works, Guy C. Emerson, engineer for the commission, formerly Superintendent of Streets, and George W. Booth, an engineer of the National Board of Fire Underwriters, of F. E. Cabot, the secretary of the Boston Board of Fire Underwriters, of Benjamin W. Wells and Samuel D. Parker,

former Fire Commissioners, and of Charles D. Daly, the present Fire Commissioner, and it has concluded that such service should be provided.

In reaching this conclusion the commission has considered the many elements of danger in the business district, such as the narrow streets, the few open areas, the close formation of the lines of buildings on the various streets, the presence of many nonfireproof buildings, and the faulty construction of many buildings and wharves from the standpoint of fire risks; and also the great value of the buildings in the district, the immense amount of business transacted there, the great direct loss that would result from a conflagration and the even greater loss to capital and labor that would follow upon the temporary suspension of business in this center of commercial and industrial activity. The commission has also considered the additional taxable values that would result from the improved system of fire protection and the prospect of increased revenue for the city as a substantial offset to its expenditure for the benefits conferred upon the property owners in the district.

The bill introduced by the Mayor, and now pending in the Legislature (Senate 295), seems well adapted to secure the proper establishment of the service in question. Though it does not, in terms, limit the service to any particular section of the city, it is intended to apply only to the business district, and the total amount of the loans authorized in the bill, \$1,000,000, practically confines the service to that district. The bill also insures continuous construction until the work is completed, as consecutive annual loans are provided for; and the total cost of the work may be kept within proper limits by the award of contracts after public competition for 85 per cent. of the cost of construction as the bill requires. The bill also provides that the act shall not take effect until it is accepted by the Mayor and City Council, a provision not only desirable from the standpoint of the city's interests, but also

necessary in order to fix definitely upon the city government the responsibility for the debt which the execution of the work entails.

If the act is passed by the Legislature and accepted by the Mayor and City Council the plan prepared by the late City Engineer, William Jackson, and the less expensive plan suggested by former Fire Commissioner Benjamin W. Wells, should be considered before the contracts for the work are awarded, and the less expensive plan adopted if it seems to afford adequate protection. The Finance Commission does not pass upon the respective merits of the two plans, but simply suggests their careful study in the interest of economy.

The routes covered by these plans, the estimates of cost, with the comments of the Finance Commission's engineer, appear in an appendix hereto annexed.

2. STRENGTHENING THE BUILDING LAWS.

This question is one which should be studied by experts in the building trades, architects, real estate owners, and insurance men, aided by a competent lawyer familiar with the building laws. Since the Finance Commission was requested by the Mayor to examine this question he has appointed a special commission to study the question. This special commission has undertaken the work and has prepared a bill which has been submitted to the Legislature and is now under consideration. The Finance Commission, therefore, feels that it has been relieved of this task, one which it could not have performed without the aid of persons having special knowledge of the problems involved, such as the Mayor has appointed as members of the special commission.

3. AUXILIARY FIRE SIGNAL STATION.

The present Fire Commissioner stated to the Finance Commission that in his opinion the present station will be safe hereafter, as the fire hazard caused by the proximity of the old fire department repair shop has

been eliminated by the destruction of that building, in place of which a new fireproof building is being constructed. In this opinion representatives of both the Boston and the National Board of Fire Underwriters concurred. The Finance Commission believes, therefore, that an auxiliary fire signal station will not be necessary.

4. THE APPOINTMENT OF ONE HUNDRED MORE FIREMEN.

The present Fire Commissioner believes fifty instead of one hundred more firemen will be sufficient and in this opinion the Finance Commission concurs.

The commission recommends:

1. That the Mayor's bill pending in the Legislature, providing for a high pressure water service (Senate 295), be passed in its present form.

2. That upon enactment it be accepted by the Mayor and City Council.

3. That the plan of the late City Engineer and that of the former Fire Commissioner be studied and the better one adopted before the contracts for the work are awarded.

4. That no auxiliary fire signal station be provided.

5. That not exceeding fifty additional firemen be appointed.

Respectfully submitted,

THE FINANCE COMMISSION,

by JOHN A. SULLIVAN,

Chairman.

APPENDIX.

THE FINANCE COMMISSION:

GENTLEMEN, — According to your instructions I submit herewith estimated cost of installing high pressure water systems for fire protection in the congested business district of the city, according to the two plans so far

outlined, namely, the plan developed by former City Engineer William Jackson, and the plan outlined by former Fire Commissioner Benjamin W. Wells.

The plan of Mr. Jackson contemplates the laying of pipe for fire service in practically all of the main streets in the area between Beach street and Hanover street, and between Tremont street and Atlantic avenue, with a small additional area in the West End. This plan contemplates a pumping station situated near the Boston end of Cambridge Bridge, taking water from the Charles River Basin. A total length of 62,440 feet of pipe will be needed, with 340 hydrants. The estimate of the Division Engineer of the Department of Public Works for the cost of the system is \$1,000,000. This estimate seems to me to allow an unnecessarily large amount for contingencies, and, in my opinion, the work outlined should be done for not exceeding \$850,000.

The plan of Mr. Wells contemplates the location of a pumping station on the Charles River Basin near Mt. Vernon street, a pipe leading across the Common, along Tremont street, down Winter and Summer streets, through High street, connecting with the present auxiliary fire main in Congress street. In addition to the route outlined, pipes are contemplated in Boylston, Mason and West streets, Temple place, Bromfield and School streets, between Tremont and Washington streets; also a pipe through Bedford street between Washington street and Summer street. This plan would furnish a line of fire protection across the city, and would give additional protection to the retail shopping district. A total length of approximately 15,000 linear feet of pipe, with seventy hydrants, will be needed, and the estimated cost by Mr. Wells is \$365,000. My own estimate practically confirms Mr. Wells's figures, being \$355,000. It will be noted that the comparative cost of the two plans is not in direct proportion to the number of linear feet of pipe contemplated, the larger cost per linear foot of the Wells plan being on account of the

large cost of pumping stations which are common to each plan and on account of the greater percentage of large sized pipe in the Wells plan.

The plan, as outlined by Mr. Wells, seems to me defective in crossing the Common. It would be better to go around the Public Garden, through Arlington street, as contemplated in Mr. Jackson's plan, as a considerable area along Boylston street and about Park square will be furnished with fire protection, and the cost would not be greatly larger than by the route proposed.

The plan of Mr. Jackson shows a considerable length of large sized pipe in Cambridge and Green streets which does not seem to be absolutely necessary at the present time. The object of this pipe is probably to furnish a circulation of water in both directions from the pumping station and possibly to allow the laying of smaller pipes than would otherwise be used. I am of the opinion that a large portion of this pipe could be safely omitted from the plan and the present station at Central Wharf utilized to furnish additional pressure if by any chance the pumping station should not be able to do so through one line of pipe.

Respectfully submitted,

GUY C. EMERSON, .
Consulting Engineer.

COMMUNICATION TO THE MAYOR IN RELATION TO THE TAXATION OF THE ESTATE OF THE LATE QUINCY A. SHAW.

Boston, March 23, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,—The Finance Commission has received and given careful consideration to Your Honor's communication dated February 9, 1911, respecting the taxation of the estate of the late Quincy A. Shaw, and submits the following report thereon:

Quincy A. Shaw died on June 12, 1908, leaving a will in which three persons were named as executors and trustees, who were duly appointed by the Probate Court for Suffolk County on July 2, 1908, and on the same day filed their official bonds both as executors and trustees, each in the sum of \$5,000,000.

On October 1, 1908, the executors filed an inventory in the Probate Court. They stated to the Finance Commission that when the inventory was filed they knew of the existence of a very large amount of personal property which was not set forth in detail in the inventory, but was referred to in a sentence reading, "Also other personal estate to be hereafter included and accounted for." One of the executors stated that soon after the testator's death he consulted with the latter's confidential clerk and that before the inventory was filed by the executors he knew of personal estate that was worth between \$17,000,000 and \$20,000,000. The inventory showed personal property in detail amounting to \$7,150,483.88, of which about \$5,000,000 was taxable, and real property amounting to \$390,650. It has since been learned that the taxable personal property for 1908, as estimated by the executors from their books and accounts, was \$19,785,774, and for 1909,

\$18,871,940. In other words, the tax should have been on about \$19,000,000 in each of the years 1908 and 1909, instead of \$5,000,000 and \$5,200,000, which was assessed in these years, respectively. The taxes paid for the two years combined amounted to \$168,300, or \$469,552.28 less than the amount that could have been lawfully assessed.

The executors carefully considered the legal aspect of their various acts in connection with the estate. They did not wish to make a full disclosure of the property, but they desired to avoid the doing of any unlawful act and believed the inventory they filed in the Probate Court was in compliance with the law. In this inventory they varied the usual form of the oath in which a declaration is made that the inventory "is a true and perfect inventory of all the estate of the said deceased which has come to their possession or knowledge," by writing in at the end of the printed form the words "as herein explained," so that the whole reads as follows:

Then personally appeared and, the executors of the will of said deceased, and made oath that the foregoing is a true and perfect inventory of all the estate of said deceased that has come to their possession or knowledge as herein explained.

They also inserted between items 79 and 80 of the inventory — that is, after the list of securities and just before the final item "cash" — the following words, "Also other personal estate to be hereafter included and accounted for."

These additions, one of the executors said, were made for the following reason: If the form of oath had not been changed and the other words had not been inserted, the inventory would not have been a true statement. The inventory, thus filed, however, was very likely to give an erroneous impression to any one looking to the inventory for information as to the details or size of the estate. It should be noted that an inven-

tory filed in the Probate Court is not a statement to the assessors nor, in the view of the law, for their benefit or information; yet it is generally known that the assessors habitually look to such inventories for guidance in the dooming of the estate.

The executors gave the following reasons for filing the inventory in that form:

1. That the family of the testator wanted as few details of their private affairs spread upon the public records as the law permitted.

2. They also wished to spare the widow of the testator, then in frail health, from the annoyance due to importunate charity seekers which would result from the publication of the full extent of the estate.

3. That a full disclosure of the estate might have had a bad effect in reviving certain litigation and otherwise injuriously affecting business interests of the estate.

4. They also desired to furnish the assessors no more information than they were obliged by law to give.

5. One of the executors stated that among the reasons that actuated him in not disclosing the assets of the estate was the fact that a very substantial amount of the Calumet and Hecla stock, about 8,500 shares, had not during the testator's lifetime stood in his name and was not generally known to belong to him. His total holdings of Calumet and Hecla stock were, as the executor recollected it, approximately 13,000 shares, or about one-seventh of the total capital stock of the company. This executor's belief was that the immediate publication of the fact of the holding by the testator, up to that time unknown, of this large fraction of the total capital stock of this company, with the natural belief in the minds of the public that this stock would come upon the market, would have a very depressing effect upon the market value of Calumet and Hecla stock, which would not only make it more difficult for the executors and trustees to dispose of any,

if they wished to do so, but would also be against the interest of other shareholders, so far as the market value of their stock was concerned.

By avoiding full taxation of the estate the fees of the executors were not increased and the executors stated that a possible increase of their fees was never considered by them. They state that the inventory would have been filed in the same form regardless of the question of taxation, and that the controlling reasons were private ones not related to taxation; in other words, that if the filing of a full inventory would have permitted them to accomplish the private objects above enumerated they would have filed a full inventory and paid all the taxes assessed against the estate. Nevertheless the result of the entire transaction was to deprive the City of Boston of about \$470,000 and leave it in the estate for the use of its beneficiaries. Though the phrase written in the inventory between items 79 and 80, "other personal estate to be hereafter included and accounted for," is not customarily used, the assessors stated that its unusual character conveyed to them no intimation that any considerable amount of taxable property was omitted from the inventory. They also state that they understood the phrase to mean odds and ends of little or no value, or of value then unascertained but probably small.

The commission believes that the Board of Assessors should have given more careful consideration to the significance of the change in the form of oath and the unusual reference in the inventory to other personal property not specifically enumerated therein, and that after they had seen the inventory they should have made full inquiry as to the amount of property in the estate. They did not exhaust all the means within their reach. If they had done so the estate might have been taxed for its full value.

CONCLUSIONS.

Upon consideration of all the facts the Finance Commission is of the opinion:

1. That as a result of the filing of the inventory in the form stated, and of the failure of the assessors to exhaust the existing means of obtaining information, the city was deprived of taxes to which it was justly entitled for the years 1908 and 1909.

2. That under the law the city has no legal claim for these taxes and cannot recover them. This is the opinion of the Corporation Counsel, of the Board of Assessors, and of the Finance Commission.

The Finance Commission has suggested to the beneficiaries under the will that as the result of the filing of this inventory has been to augment their share of the estate, and as the private reasons for so filing it have resulted, as they desired, in saving annoyance and trouble as well as possible loss on their shares of Calumet and Hecla stock, the city could fairly expect them to recognize a moral obligation to return whatever they have saved in taxes. The beneficiaries thereupon turned over to the Finance Commission the amount of the taxes saved, together with the amount computed to have been the income derived therefrom, the total amount being \$492,020.42, their intention being to leave themselves in a position where they shall not have retained any financial benefit from the filing of the inventory in the form above stated.

The sum above named has been delivered by the commission to the City Treasurer.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

Mr. Balch of the commission participated in the investigation, but did not participate in the drafting of this report, as he was out of the country at the time.

COMMUNICATION TO THE CITY COUNCIL IN
RELATION TO THE BUILDING OF AN
ANNEX TO THE CITY HALL.

BOSTON, April 10, 1911.

To the Honorable the City Council:

GENTLEMEN,—The Finance Commission received from the Assistant City Clerk, on April 4, 1911, the following communication:

April 4, 1911.

BOSTON FINANCE COMMISSION:

GENTLEMEN,—The City Council has under consideration the following order:

Ordered, That from the cash surplus in the treasury there be appropriated the sum of \$800,000 to be expended by the Superintendent of Public Buildings, after plans and specifications shall have been approved by the City Council, and the contract for the same shall have been approved by the Finance Commission, for the erection of an annex to City Hall on the site of the present Old Court House.

The City Council voted, at its meeting on April 3, 1911, to request the Finance Commission to submit a report on or before the next meeting of the City Council, April 10, 1911, as to the advisability of adopting the said order.

Respectfully yours,

W. J. DOYLE,
Assistant City Clerk.

The commission respectfully suggests that the order in its present form be not passed.

The order is obviously designed to protect the city against loss resulting from the erection of the building under defective plans and specifications, or under a contract either defective in form or objectionable because of circumstances connected with its award. To safe-

guard against such loss, the order in effect provides that no part of the money appropriated shall be spent until the plans and specifications have been approved by the City Council and the contract has been approved by the Finance Commission.

In the opinion of the Finance Commission the charter provisions impose limits upon the powers of the City Council and the Finance Commission, respectively, which the order in question exceeds. The City Council has the power to vote appropriations, but in the opinion of the commission it has no power to compel the executive department to postpone the expenditure of the money thus appropriated until conditions annexed to the grant of money have been complied with. The Finance Commission possesses supervisory powers only under the charter, and cannot by vote of the City Council be authorized to exercise executive functions such as the order under consideration seems to require. The approval of the plans and specifications by the City Council and of the contract by the Finance Commission as conditions precedent to the expenditure of the money by the executive department, would constitute participation in the executive business of the city and would therefore be contrary to existing law.

It would seem to follow, therefore, that if the appropriation were made under such an order as the one in question the money would become available for the use of the executive department in the construction of the building, but the conditions annexed to the appropriation could be disregarded. In other words, the executive department could adopt plans and specifications and make a contract for the erection of the building without submitting the plans and specifications to the City Council or the contract to the Finance Commission.

The City Council can, if it chooses, withhold the appropriation until plans and specifications are drawn which meet its approval and until the form of contract meets the approval of the Finance Commission.

The executive department, however, would not be required to submit the plans and specifications to the City Council or the form of contract to the Finance Commission, and if it should choose not to do so and the Council should thereupon decline to appropriate the necessary money, the erection of the annex would be indefinitely postponed.

The Finance Commission believes that the erection of an annex to City Hall upon the site of the Old Court House would be a practical solution of the problem of providing the additional accommodations needed, and would avoid the disadvantages resulting from the erection of a new City Hall at a distance from the present site which would render it inconvenient to the general public in the transaction of its business with the various city departments. A modern office building on the Old Court House site, with a bridge across Court square connecting the new building with City Hall, would facilitate the transaction of the administrative business of the city by bringing the various departments into closer relation, and would make a reduction in expenditures possible because of these improved facilities and the saving of rentals which would otherwise be necessary for outside accommodations.

The commission believes, however, that the City Council should request the executive department to furnish full information as to the plans for the new building, the probable cost, and the method which is likely to be employed in the selection of an architect and the award of the contract for the erection of the building. The commission suggests that the information should cover the following matters:

1. A statement showing the width of the streets surrounding the Old Court House site and the average width of the same.

2. An opinion from the Corporation Counsel as to the height to which the building could be erected under the provisions of section 18 of chapter 550 of

the Acts of 1907; and also as to the legal right of the city to construct a bridge over the street between City Hall and the proposed annex, if such a bridge should seem to be necessary.

3. A statement showing the dates of the expiration of the leases of various hired quarters occupied by city departments.

4. A careful estimate of the cost made by the Building Commissioner.

The commission suggests that after the doubts as to the legal right of the city to erect a building of the proposed height (125 feet) and to build the bridge aforesaid have been cleared up, and after the City Council has received full information as to the plans and specifications, the form of contract, the estimates of cost, and other information which has previously been suggested herein as important, the appropriation should be made. The commission also suggests that the appropriation be accompanied by a resolution of the Council expressing the opinion that the architect should be selected after public competition in order to insure competent service at reasonable rates.

Respectfully submitted,

THE FINANCE COMMISSION,

by JOHN A. SULLIVAN,

Chairman.

COMMUNICATION TO THE MAYOR IN RELATION TO THE NECESSITY OF APPOINTING A PERMANENT COMMISSIONER TO THE BOARD OF HEALTH.

Boston, April 12, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,— On July 2, 1910, a vacancy was created in the Boston Board of Health. An appointment was made to the board by Your Honor on July 5, 1910, but the Civil Service Commission did not regard the appointee as qualified by education, training or experience, and the appointee was not confirmed. No permanent appointment to the Health Board has since been made, but a temporary appointment, so called, was made on August 8, 1910. The temporary appointee, in the opinion of the Finance Commission, is not qualified by education, training or experience for the task, and the administration of the duties of the Board of Health must necessarily have been hampered during the eight months in which he has acted as a member of the board.

The commission has twice recommended that Your Honor make an appointment to this office which would be in harmony with the letter and spirit of the charter. Thus, on August 17, 1910, the commission advised Your Honor: "That the Mayor consult physicians and sanitary engineers of high standing in their profession, who are familiar with modern scientific public health administration, for the purpose of obtaining names of persons eligible for the office of Health Commissioner, and that a competent person be appointed to that office." Again, on October 13, 1910, the commission called Your Honor's attention to the fact that: "This appointment has ceased to be a temporary one within the meaning

of the law, and Your Honor should appoint a qualified person as Health Commissioner at the earliest possible moment. The continuance in office, under the guise of a temporary appointment, of one whose qualifications would not be likely to secure the approval of the Civil Service Commission if the appointment were made in the regular way provided by the charter tends to demoralize the administration of the Health Department and to menace the safety of the public."

Six months have now elapsed since the date of this last recommendation, but no appointment has yet been made. The commission respectfully renews its recommendations of August 17 and October 13, 1910, that a competent person be appointed as Health Commissioner.

As the members of the Board of Health have equal authority and each exercises executive powers, all should be specially fitted for their tasks. The commission believes that the best equipment available for the service is required in the interests of the public. No one whose attention has been devoted almost wholly to politics and who has had no special education, training or experience qualifying him for the office should be appointed simply because he has been in touch with large numbers of citizens during his political career. An intimacy with great numbers of people, incidental to an active participation in politics, may constitute a formidable obstacle to the successful discharge of the duties of a Health Commissioner, and thus tend to disqualify rather than to qualify a politician for this particular office. Every order of the Board of Health to make cleaner and more wholesome butcher shops, bake-shops or restaurants, to provide more air and light in tenements, or better ventilation, or improved sanitary conditions—in fact, every order and regulation of the board affects the financial interests of some individual. The first impulse of many who find themselves called upon to spend money for improvements ordered by the Board of Health is to avoid compliance by bringing political pressure on the members of the board. For

this particular position one who is in touch with the people, in the sense of having had political relations with them throughout a whole lifetime, may be the person who can be least relied upon to stand by his associates in the Board of Health in the enforcement of orders affecting great numbers of manufacturers, shopkeepers, victuallers, peddlers and owners of tenement houses. Only a person of great public spirit and unusual courage can deal successfully with such problems. One who has been accustomed to procure favors of one kind or another for people who do not always understand the necessity of making financial sacrifices in compliance with orders of the Board of Health cannot be depended upon to compel hundreds, perhaps thousands, of comparatively poor persons to suffer temporary financial loss, interruption of business and other inconveniences which the public interest may demand.

In view of the fact that there are two physicians on the board, the commission recommends the appointment of a qualified sanitary engineer as a third member of the Board of Health.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

COMMUNICATION TO THE MAYOR IN RELATION TO THE TRANSFER OF THE PROPERTY OF THE MUSEUM OF FINE ARTS IN COPLEY SQUARE TO THE COPLEY SQUARE TRUST.

Boston, April 15, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,— On March 27, 1911, Your Honor requested the Finance Commission to investigate the transaction which resulted in the transfer of the land and building of the Museum of Fine Arts in Copley square to an unincorporated association known as the Copley Square Trust, and to report whether “there was any moral or criminal liability on the part of those concerned” in the transaction.

The commission respectfully submits the following report:

The Museum of Fine Arts is a corporation whose property is held for a public purpose and is exempt from taxation. Having made arrangements for the erection of a new Art Museum on another site, the trustees desired to sell the old Art Museum on Copley square and the land on which the building stood so as to procure money to aid in the erection of the new building. The needs of the Art Museum at this time were very peculiar. Owing to the nature of the large collection in its charge, it could not vacate and deliver its old premises until a new permanent home for its art treasures was provided and their transfer completed without loss and inconvenience to the public — a task which would take several years to accomplish. At the same time it was necessary for the museum to realize a part

of the value of its old home in cash at once, in order to provide a new home. This created an almost unique situation.

A purchaser, however, was found and a plan devised to meet the situation. The Copley Square Trust was organized for the purpose of acquiring the property of the museum on Copley square and an agreement was made with the trustees of the museum for the purchase at a price of \$1,800,000. The payments were to be made in instalments of \$500,000 each on June 20 of the years 1902, 1904 and 1906, and the balance of \$300,000 on the date of delivery of possession of the property, the date to be June 20 of the year 1907, or 1908, or 1909, at the option of the trustees of the museum. The trustees of the museum were also bound to deliver a deed of the property in escrow to the Old Colony Trust Company upon the payment of the first instalment, and the Old Colony Trust Company was to deliver the deed to the Copley Square Trust when the full purchase price was paid, or when, at the option of the trust, it demanded the deed and gave its note for the balance of the purchase money, secured by mortgage of the land, together with a lease, to the trustees of the museum for a term ending at the time fixed for the payment of the last instalment, but not earlier than June 20, 1907, in any event.

Under these agreements the property was sold and paid for, and delivery of possession was made to the Copley Square Trust on June 19, 1909, the deed being recorded in the registry on that date. An instalment of \$500,000 on the purchase price was paid by the Copley Square Trust to the trustees of the museum on each of the following dates: June 20, 1902; June 20, 1904, and June 20, 1906, and the balance of the purchase price, \$300,000, was paid on June 19, 1909.

Your Honor states that "as a result of this complicated and peculiar transaction no taxes were paid upon the property in the years 1903, 1904, 1905, 1906, 1907, 1908 and 1909, although in the opinion of many persons

there had been a complete transfer of title and the property was taxable to the Copley Square Trust." As already stated, the property of the Museum of Fine Arts was exempt from taxation, and consequently no attempt was made by the assessors to tax the museum on its real estate or on the money paid to it by the Copley Square Trust. The assessors did, for the year beginning May 1, 1909, assess a tax upon the Copley Square Trust for the \$1,500,000 which had been paid by the trust to the museum trustees as instalments on the purchase price, and also assessed a tax upon \$63,200 of other personal property of the trust on the basis of a statement filed by the Copley Square Trust with the assessors as to the amount of their taxable property. No question was raised as to the validity of the tax on the \$63,200, but the Copley Square Trust, believing that the tax on the \$1,500,000 paid in instalment had been illegally assessed, paid it under protest; later applied to the assessors for an abatement, and upon their refusal brought a suit against the City of Boston in the Superior Court, which court reported the case to the Supreme Judicial Court for the Commonwealth on the pleadings and an agreed statement of facts by the parties.

The Supreme Judicial Court in a decision handed down on April 4, 1911, decided that the tax had been unlawfully assessed upon the money paid in instalments, as the title to the money thus paid was in the museum trustees and was not money at interest belonging to the trust within the meaning of the statutes. The court said: "We feel constrained to construe the contract as calling for payments in advance, which transferred the title to the money absolutely to the museum, and made the museum the owner, not only of the legal title to the real estate by virtue of its deed which had not been delivered, but of the sums of money advanced in payment for it. After making these payments in advance the petitioners had no longer any title to the money paid, nor any claim upon

the museum for it. No debt was created in their favor. Their equitable title was to the land. If they failed to perform their contract, the museum might hold the money as forfeited, unless it elected to demand specific performance. Under this arrangement the petitioners had no money at interest, within the meaning of the statute, even though a payment was to be made to them in the final settlement which is referred to in the contract as interest. It follows that they were not taxable for the money advanced upon their contract, in part payment for the land, and that they are entitled to an abatement of the tax."

It thus appears from the decision of the Supreme Judicial Court that the Copley Square trustees were correct in assuming that the money paid to the Art Museum trustees in instalments was not properly taxable. If the Copley Square trustees had believed this money to be taxable they would not have undertaken the purchase of the property unless the Art Museum trustees agreed to pay the tax. This would have required the Art Museum to pay 5.90 per cent. for the use of the money instead of the 4.25 per cent. which they actually paid. Thus it appears that it was the Art Museum and not the Copley Square Trust which benefited by keeping the property in nontaxable form.

The Copley Square Trust throughout the entire transaction acted openly and without any attempt at concealment of its purposes. All of the details of the transaction were attended with publicity. Thus it appears that the agreement between the Art Museum trustees and the Copley Square Trust for the purchase of the property was made on April 22, 1902, and recorded in the Registry of Deeds for Suffolk County on April 25, 1902. (See book 2821, page 120.) The agreement states in substance that the museum trustees are to sell and the Copley Square Trust to buy the property upon the terms which are set out in an agreement of the same date between the same parties and on file

with the Old Colony Trust Company of Boston. The assessors, or anyone else, having a legitimate interest in the transaction, could have ascertained the terms and conditions of the sale by examining the instrument on file at the Old Colony Trust Company. It also appears that a declaration of trust by the Copley Square trustees was made on April 22, 1902, and recorded in the Suffolk Registry of Deeds on April 25, 1902, which instrument sets forth the general purposes of the trust, its capital, the value of its shares, the form of its certificates, and other material matters, including two important statements—one, to the effect that the money of the subscribers shall be used to pay to the trustees of the Museum of Fine Arts instalments on the purchase price of the property; the other to the effect that, until the purchase under the contract with the Art Museum trustees had been completed by the delivery of the deed and possession, the Copley Square Trust should pay dividends to their subscribers at the rate of 4 per cent. per annum on the amounts paid in by them. It also appears that the Copley Square trustees, on April 20, 1902, wrote a letter to the brokers who were to place the certificates of the trust on the market, stating, among other things, that: "The museum retains possession of the premises until May 15, 1907, or 1908, or 1909, as decided by it prior to October 1, 1905, and pays interest therefor, which will enable the trustees to pay semiannually dividends at the rate of 4 per cent. per annum on all sums paid in until actual possession is delivered as above." This letter was embodied in a circular which the brokers sent out broadcast in the endeavor to procure subscribers to the trust. From these various documents anyone having an interest in the subject could have procured complete information as to all the essential particulars of the transaction.

The Corporation Counsel of the city who, because of his connection with the suit brought against the city to recover the taxes paid, is familiar with all the details

of the transaction, has stated that if the Copley Square Trust had the legal right to act as they have done, they also had a moral right to do so. The Finance Commission is of the same opinion. It believes that the transaction was not obnoxious either legally or morally, and it therefore answers both of Your Honor's questions in the negative.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

COMMUNICATION TO THE MAYOR IN RELATION TO A CONTRACT FOR GYMNAS-
TIC APPARATUS FOR THE PARIS STREET
GYMNASIUM, EAST BOSTON.

Boston, April 20, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,— The commission respectfully calls to your attention certain irregularities in the method of awarding a contract for furnishing and installing gymnastic apparatus in the East Boston gymnasium.

On January 29, 1910, the Bath Department advertised for bids for furnishing and installing gymnastic apparatus in the East Boston gymnasium on Paris street. Bids were received from two companies, which were opened on February 9, 1910, the bids being as follows:

Narragansett Machine Company	\$2,049 00
Wright & Ditson Company	2,200 00

The then chairman of the Bath Trustees states that Your Honor intimated that you would prefer that local companies be favored in the award of contracts, but the Bath Trustees, notwithstanding this intimation, awarded the contract to the lower bidder, the Narragansett Machine Company. The chairman stated also that Your Honor later qualified your statement concerning the giving of a preference to a local company in the award of this particular contract. The contract has never received Your Honor's approval, however.

The personnel of the Board of Trustees of the Bath Department was changed later in the year. The chairman resigned on April 26, 1910, and another was elected chairman. He also resigned on July 19, 1910. Meanwhile, other members were appointed to the board in

May, June and July of that year, among them the present chairman. One member of the former board was reappointed and the board now consists of five members only,—all appointees of Your Honor,—as two vacancies have not been filled. The present chairman stated to the Finance Commission that he had supposed that everything had been done to consummate the contract until he learned, near the middle of February, 1911, that Your Honor had not approved it. He then called upon Your Honor and left the papers, and the next day went again to Your Honor's office and received the papers with the information that you had not approved the contract. The chairman stated that a few days afterward he sent a letter to the Narragansett Machine Company as follows:

February 20, 1911.

NARRAGANSETT MACHINE COMPANY,

MR. A. J. THORNLEY, *Providence, R. I.*:

MY DEAR SIR,—I remit herewith your certified check for \$500, which was deposited with us in connection with the contract for the installation of the gymnastic apparatus at the Paris Street Gymnasium in East Boston. We have decided to readvertise for bids for the installation of the above-mentioned items, and trust that you will find it convenient to submit to us an additional bid for items which will be submitted to you within a few days.

I trust this matter does not inconvenience you, and that satisfactory arrangements may be made in the future.

Very truly yours,

RICHARD M. WALSH,

Chairman Bath Trustees.

It will be observed that the lower bidder, having waited for about a year to receive the contract to which it was justly entitled, received instead its certified check for \$500, with an intimation that another bid would be expected, but without any disclosure of the reasons for the failure to approve the contract on the original award. The reason for failing to give such information to the successful bidder is that the new Board of Bath Trustees, ac-

according to the statement of its chairman, never learned the reasons for Your Honor's failure to approve the contract.

Five days after the sending of this letter to the Narragansett Machine Company the Bath Department again advertised for bids for the gymnastic apparatus, and two bids were received, as follows:

A. G. Spalding & Bro., Inc., deliver and erect for	\$2,086 00
Wright & Ditson, deliver and erect for	2,075 98

The Narragansett Machine Company, having lost confidence in the good faith of the city, did not bid. The lower bid in the second competition was \$26 higher than the Narragansett Company's bid in the original competition, and the Bath Trustees, therefore, could not award the contract to the lower bidder in the second competition without exposing themselves to criticism. They avoided this by asking the Wright & Ditson Company to reduce its second bid and the company then made an offer of \$1,975, which the Bath Trustees accepted and Your Honor approved. This was \$74 less than the lower bid in the original competition, and, so far as the records go, they show an apparent saving of \$74 to the city. Whether it is an actual saving cannot be determined, however, as the Bath Trustees did not ask the Narragansett Company whether they would reduce their original bid of \$2,049. If they had done so they might have received an offer less than \$1,975. It is doubtful whether any money has been saved as a result of this transaction, but if any saving has been accomplished it has been at the expense of the city's reputation for fair dealing with contractors in a public competition. The loss of such a reputation must result in narrowing the field of competition, with an eventual money loss to the city far outweighing any petty saving in single instance.

Respectfully submitted,

THE FINANCE COMMISSION,

by JOHN A. SULLIVAN,

Chairman.

COMMUNICATION TO THE MAYOR IN RELATION TO THE APPOINTMENT OF A SANITARY ENGINEER AS THE THIRD MEMBER OF THE BOARD OF HEALTH.

Boston, April 22, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,—On April 12, 1911, the Finance Commission in a communication to Your Honor stated that the temporary appointee, so called, who has acted as a member of the Board of Health for the last eight months, was not qualified by education, training or experience for the proper discharge of his duties, and believing that the community was entitled to the services of one competent to fill this responsible position, on which the health of the community so largely depends, recommended that a sanitary engineer be appointed in his place.

Your Honor was represented in the newspapers of the following day as having indicated a willingness to appoint a qualified person if such could be found, and in one newspaper was quoted as saying: "If the Finance Commission will show me a man of the qualifications it prescribes, who will take the job, I will appoint him." In another newspaper Your Honor was quoted as saying: "I have been looking for some sanitary engineer who will not only be willing to take the job, but will pass with the Civil Service Commission, and as yet have not found him. I have asked half a dozen and they will not take the job. When I do find one who at once is willing to do the work and will pass muster, then I will appoint him."

Assuming that Your Honor was quoted correctly, the commission made inquiries for the purpose of ascertaining whether a qualified sanitary engineer could be found

who would be willing to take the place, and has received the names of six men who seem thoroughly qualified for the duties of Health Commissioner, and who are willing to take the position if it is offered to them. As none of them seeks the office, none would wish to have his name published unless appointed by Your Honor.

The commission respectfully requests that Your Honor consider the six persons suggested, and if upon further inquiry you choose to appoint any one of them, the person appointed will have no objection to the publicity attending the submission of his name to the Civil Service Commission. The Finance Commission believes that the appointment of any one of the number would be approved by the Civil Service Commission, and would greatly strengthen the city's Health Department.

The commission submits a brief statement of their professional records and qualifications, omitting their names for the reasons above stated:

No. 1.—Was graduated from the Massachusetts Institute of Technology in 1898 and received the degree of Bachelor of Science in the Department of Civil Engineering; for a number of years thereafter was with the Massachusetts Board of Health, from which he went to another state, assuming a position there of chief engineer of the State Board of Health; spent one year on leave of absence as chief sanitary engineer in Havana, where he had valuable experience; has done professional work in connection with the sewage disposal problem in Washington, Pa.; is one of several who have jointly published an authoritative work on sewage disposal.

No. 2.— Was graduated from the Institute of Technology in 1889; was assistant engineer for the State Board of Health of Massachusetts for several years; has been employed as consulting sanitary engineer for various cities and towns in Massachusetts and throughout the country; has had large and valuable experience as a sanitary civil engineer.

No. 3.— Was graduated from Harvard University in 1892; then studied at the Institute of Technology for one year; was bacteriologist to the Massachusetts State Board of Health, and was assigned to the experiment station at Lawrence; was called to Pittsburg to deal with the problem of purifying its water supply by a method of filtration; was called to Philadelphia as bacteriologist in the experiment station, at which the purification of the Philadelphia water supply was being studied; was called to Columbus, Ohio, as chemist at the experiment station at which methods for the disposal of sewage of that city were being studied; now employed as superintendent of the filtration plant in one of the large cities of Ohio.

No. 4.— Was graduated from the Institute of Technology in 1892; is now associate professor of sanitary science in an Indiana University; author of a number of papers on public health and sanitation which have received favorable comment; is considered a high authority on modern sanitary theory and practice; and has had much to do with the improvement of sanitation in towns and cities of northern Indiana.

No. 5.— Was graduated from Amherst College with the degree of Bachelor of Arts in 1891; received the degree of Master of Arts in 1904 from the same college; was a graduate student of sanitary biology, etc., at the Institute of Technology during 1894-5; in 1896 studied in Berlin, Germany. Sanitary science is his specialty and since 1899 he has worked in Boston as consulting sanitary engineer. He is a member of the American Public Health Association and of the Boston Society of Civil Engineers; at present is engaged in the study of the water supply of Pittsburg and has in the past been connected with similar studies in several places, particularly in Louisville and in New Orleans, where his work was in large part responsible for the great improvements which have been made there.

No. 6.— Was graduated from the Institute of Technology in 1906; spent one year as an assistant in the

Boston Bio-Chemical Laboratory, being engaged chiefly in the study of certain milk supplies in eastern Massachusetts; was then appointed assistant bacteriologist of the State Board of Health of Iowa, which position he occupied for two years. He then went to Orange, New Jersey, as health officer, remaining there until called back to a Massachusetts technological school, in which he is now engaged as instructor in sanitary biology and municipal sanitation; is highly regarded in his profession and has had the practical experience which a large city needs.

The Finance Commission believes that none of the persons whose qualifications are thus described would have any difficulty in obtaining the approval of the Civil Service Commission if appointed. Should Your Honor desire to learn more of the personal history or the qualifications of any of these individuals the Finance Commission will be pleased to refer you to those who can give you the desired information.

The commission has no interest whatever in the appointment of any particular individual, but it respectfully recommends either that one of these persons or some other person of equal qualifications be appointed, in order that the city may receive the high grade of service which the public interests require. The commission sends herewith for Your Honor's private perusal the names of the individuals in question, with a short sketch of their records and qualifications.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

COMMUNICATION TO THE MAYOR IN RELATION TO THE BIDS FOR FURNISHING MOTOR COMBINATION CHEMICAL AND HOSE WAGON TO THE FIRE DEPARTMENT.

Boston, April 26, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,—On April 1, 1911, Your Honor requested the Finance Commission to investigate the bids for furnishing a motor combination chemical and hose wagon to the Fire Department for the purpose of ascertaining whether the conditions existing among the manufacturers of such apparatus were similar to the conditions which had been shown by the former Finance Commission to have existed among companies which had bid for contracts for furnishing iron and steel and for making repairs on boilers for departments of the City of Boston. The commission assumes that Your Honor wishes to know whether there is any evidence tending to show collusions between the bidders for supplying the fire apparatus in question. The bids were as follows:

Combination Ladder Company	\$5,500 00
American-La France Fire Engine Company	5,500 00
Knox Automobile Company, Model M-4	5,500 00
Knox Automobile Company, Model M-3	5,600 00

Your Honor did not submit any evidence to the commission which would make out a *prima facie* case of combination among these bidders or offer any clue as to the existence of a combination. Apparently the only reason for Your Honor's request for an investigation was because of the correspondence in the figures submitted by these various companies. In the

opinion of the commission the fact that the figures correspond does not indicate the existence of a combination, but the reverse. If the three companies in question had entered into a combination they probably would have arranged to have one of them bid lower than the others, but in this case all three bids are for the same amount, \$5,500, the alternative bid of \$5,600 made by one firm being for a different model.

The commission has examined various representatives and officials of the three companies which submitted the bids, but it has not discovered any evidence tending to show any agreement or combination between these three companies or between any of them and other manufacturers of motor fire apparatus to submit collusive bids to the city or to other prospective purchasers of such apparatus. The evidence submitted shows that the three companies in question are in active competition with each other, and that they have no agreement or understanding for the division of business or territory, the output of their factories, or the regulation of prices.

The commission recommends that before publishing requests for investigations the reputation and business interests of the persons affected be given some consideration, and that in every case which appears to be doubtful, either as to the facts or as to the violation of the law, the request for investigation be submitted privately. If this course is adopted innocent persons will escape unenviable notoriety, and the guilty will not be apprised of the pending investigation and thus be given opportunity to conceal or destroy the evidence of their wrongdoing.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

COMMUNICATION TO THE MAYOR AND CITY
COUNCIL IN RELATION TO CERTAIN PRO-
POSALS FOR LIGHTING THE STREETS
WITH GAS.

Boston, April 29, 1911.

To the Honorable the Mayor and City Council:

GENTLEMEN,— The Finance Commission respectfully submits the following report upon certain proposals for lighting the streets with gas or furnishing lighting equipment, made in response to an advertisement by the Commissioner of Public Works for bids, dated February 11, 1911.

1. BIDS FOR LIGHTING THE STREETS FOR A PERIOD OF
TEN YEARS.

The notice to bidders called for the furnishing, maintaining and operating of approximately 11,000 gas lamps on either of the following plans:

(a.) Lamps to be lit and extinguished either in whole or in part by hand, or by any automatic device the contractor may install.

(b.) Lamps to be lit and extinguished by hand, with a provision for the installation at some future time of automatic devices for lighting and extinguishing lamps in whole or in part.

The bids were opened on Saturday, March 4, 1911. Only one bid was received, that of the Rising Sun Street Lighting Company, the company which has received various street lighting contracts from the city for the past twenty-three years, including the gas lighting contracts of the last twelve years. The company bid \$22.30 per lamp per year, under the provisions of the second plan (Article B of the Notice to Bidders), which gives the company the choice of lighting and extinguishing the lamps by hand or by automatic devices, subject,

however, to the provisions of Article 3 of the specifications (a copy of which is hereto annexed and marked Appendix A), in which it is provided that the city may request the contractor to install automatic devices and, if the contractor declines, the question of installation shall be finally determined by three experts, one to be chosen by each party to the contract, and the third by the two experts thus chosen. Article 3 also provides that if such devices are installed the cost of installation, including interest and sinking fund charges, shall be computed upon the basis of the number of years the contract has to run beyond the date when the installation is completed; and, after the payment of said interest and sinking fund charges, the saving effected by the use of such devices shall be divided equally between the city and the contractor.

In considering the advisability of accepting the offer of the Rising Sun Street Lighting Company it will be necessary first to estimate the reasonable cost to the company of executing the contract in the event of the maintenance of the present system of upright mantle lamps, lighted and extinguished by hand, and also to consider in that connection the Lamplighters Union's estimate of the cost of maintaining such a system. It will then be necessary to consider the cost to the city in the event of the Rising Sun Street Lighting Company's installing automatic devices and also to consider in that connection the informal offer which was made by the Pressure Lighting Company for the maintenance and operation of a similar system. Finally, it will be necessary to consider the advisability of the city's purchase, installation and operation of a lighting plant equipped with automatic devices.

2. HAND-LIGHTING SYSTEM.

A. *Estimated Cost to the Rising Sun Company.*

Mr. Guy C. Emerson, engineer for the Finance Commission, estimates that the probable cost to the Rising Sun Company will be \$21.69 per lamp year, including

interest at $4\frac{1}{2}$ per cent. on \$50,000, which he considers to be the fair value of the company's present upright mantle lamp equipment. This estimate of \$21.69 does not include an allowance for penalties which may be deducted for failure to maintain the required candle power; and, as there are more effective provisions in the new contract for securing the prescribed candle power than the former contract contained, it is likely that greater penalties will be imposed hereafter, and therefore a substantial allowance will have to be made in excess of the estimate of \$21.69. The existing contract provides penalties for the failure to maintain the lamps at 60 candle power, but the police officers who make the reports report only those cases where the lights have gone out, as they have neither authority nor means to test a lamp which has become dim, and consequently many of the lamps have been maintained at from 30 to 50 instead of 60 candle power. Under the proposed contract, however, there are penalties both for lights which have gone out and for lights which have become dim, and the lamps may be tested by experts employed by the Department of Public Works. There is every reason to expect that the city will be able to compel the contractor to maintain lights of 60 candle power and that the penalties exacted will be far greater in number and amount than those which have been imposed heretofore. It is not improbable, therefore, that, making allowances for penalties, the cost to the company will be \$21.90 per lamp year.

The commission's engineer has made no estimate of the cost to the Rising Sun Company for maintaining and operating an inverted mantle lamp system as the company does not intend to install such a system.

B. The Estimates of the Lamplighters Union.

The Lamplighters Union has furnished two estimates of the expense which the city would incur in installing its own plant and maintaining and operating it by city labor, the first applying to the upright mantle lamp

system, the second to inverted mantle lamps. The union's estimate of the cost to the city of installing and maintaining the upright lamp system is \$20.58 per lamp year, and \$20.44 per lamp year for the inverted lamp system. If the union's estimates are correct, either of the plans it suggests would be more advantageous to the city than the offer of the Rising Sun Street Lighting Company for maintaining the existing system on a hand-lighting basis (\$22.30). The commission believes, however, that the union's estimates are inaccurate in several particulars and below the actual amount the city would have to expend for the operation of either system.

The estimates of the commission's engineer and of the Lamplighters Union are set forth in detail in an appendix hereto, marked B. The commission's engineer has made a critical analysis of the estimates of the Lamplighters Union, which will be found in an appendix hereto annexed, marked C.

If the city should decide to maintain the present system of upright mantle lamps, without automatic devices for lighting and extinguishing, it would be advisable to accept the present offer of the Rising Sun Company, as the cost of municipal operation under such a system would be greater than the company's offer, and, furthermore, because at the present time no immediate prospect appears of finding any other company which will install a new plant and perform the services at a rate as low as that which the Rising Sun Company is able to offer on account of its having a plant already installed.

If the city should decide to purchase and install inverted mantle lamps, without automatic devices, such a system could be maintained at a cost lower than the Rising Sun Company's offer of \$22.30 if that company should not use automatic lighting devices in connection with its system. But the Rising Sun Company will in all probability use automatic lighting devices, and their use will bring the cost to the city below the point at which the city could maintain its own hand-lighting

system with either upright or inverted mantle lamps. The city cannot afford to continue the hand-lighting system as it would be able, either by availing itself of the Rising Sun Company's offer to maintain its system with automatic lighting devices or by municipal ownership and operation of a plant equipped with automatic devices, to secure light at a cost below the lowest estimate for the hand-lighting system with either upright or inverted mantle lamps.

3. THE AUTOMATIC LIGHTING SYSTEM.

A. *The Offer of the Rising Sun Company.*

If the bid of the Rising Sun Company is accepted it may, either upon the request of the city or as the result of a decision of the Board of Experts, install automatic lighting and extinguishing devices in connection with its lighting system, and in either case the net saving effected by the use of such devices will be divided equally between the city and the company.

The estimate made by the commission's engineer of the cost to the company of maintaining its system by hand lighting shows a very small margin of profit for the company, to wit, 61 cents per lamp year, not including deductions for penalties. Unless the company increases the extent of the lamplighters' routes or reduces their pay, neither of which seems practicable, the company's profit will be so small as to afford little inducement for the continuance of the work, and in order to make a reasonable profit it will be obliged to install an automatic lighting device as soon as one is found which is efficient in operation and can be obtained at a reasonable price. But, as already stated, if the company should not voluntarily install automatic lighting devices, there are means provided in the contract for installing them against the company's will. At all events the commission believes that the acceptance of the company's offer will give a practical assurance that automatic lighting devices will be installed soon after the award of the contract, and in this event the bid of

the company (\$22.30) will be substantially reduced, the reduction being larger or smaller according as the device is installed at an early or at a late period of the life of the contract. The table on page 120 shows the net saving which the commission's engineer estimates will be effected by the use of an automatic device in any one of the first eight years of the contract. No saving could be made in the ninth or tenth year, as the time which the contract would then have to run would be so short, and consequently the interest and sinking fund charges would be so large as to preclude the possibility of a saving at such a late date. It would be certain, therefore, that the devices would not be installed after the eighth year.

The estimate of the saving in each year is based on the assumption that the automatic devices shall have been installed for the entire system before the beginning of the year in which the saving is shown in the above table. It is hardly possible that the devices would be installed before the new contract begins to run, August 1, 1911. If they are not so installed the cost in the first year would be in excess of the \$20.67 shown in the above table.

B. The Offer of the Pressure Lighting Company.

The Pressure Lighting Company, in response to the advertisement for bids for equipment, offered to furnish and install upright lamps with automatic lighting devices for \$16.50, plus \$1 a year royalty, for each of the ten years of the contract; in other words, for \$26.50 per lamp, the lamps and automatic devices to become the property of the city at the end of ten years, when the royalty payments shall have been completed. If this offer were accepted the city would have to light and extinguish the lamps and care for them at its own expense.

Shortly after this bid was submitted, and after the time for opening the bids had expired, the Pressure Lighting Company made an informal offer to maintain

TABLE SHOWING SAVING TO CITY BY INSTALLATION OF AUTOMATIC LIGHTERS UNDER BID OF THE RISING SUN STREET LIGHTING COMPANY. (ESTIMATED NUMBER OF LAMPS, 11,000)

SAVING OVER PRICE FOR HAND LIGHTING TO BE DIVIDED EQUALLY BETWEEN CITY AND CONTRACTOR.

YEAR OF CONTRACT	Contract Price Hand Lighting.	CHARGES FOR AUTOMATIC LIGHTERS.		Total.	Saving per Year in Operating Cost.	Operating Charges under New System.	Contract Price of \$22.30, Less Operating Charges under New System.	Saving to City per Lamp Year.	Price to City per Lamp Year.	Total Saving to City for Balance Term of Contract.
		Sinking Fund Charges.	Interest 4½ per Cent.							
1	\$22 30	\$0 972	\$0 518	\$23 79	\$4 75	\$19 04	\$3 26	\$1 63	\$20 67	\$170,200 00
2	22 30	1 098	518	23 91	4 75	19 16	3 14	1 57	20 73	155,480 00
3	22 30	1 254	518	24 07	4 75	19 32	2 98	1 49	20 81	131,120 00
4	22 30	1 456	518	24 27	4 75	19 52	2 78	1 39	20 91	107,030 00
5	22 30	1 724	518	24 54	4 75	19 79	2 51	1 26	21 04	83,160 00
6	22 30	2 100	518	24 92	4 75	20 17	2 13	1 06	21 24	58,300 00
7	22 30	2 568	518	25 39	4 75	20 64	1 66	83	21 47	36,520 00
8	22 30	3 612	518	26 43	4 75	21 68	62	31	21 99	10,230 00
9	22 30	5 500	518	28 32	4 75	23 57	.....	.....	22 30	
10	22 30	11 162	518	33 98	4 75	29 23	.....	.....	22 30	

and operate the lamps and automatic devices for \$19.30 per lamp year, the offer being based, however, upon the understanding that the city would purchase the lamps and automatic lighting devices from the Pressure Lighting Company at a cost of \$16.50 for each such lamp and device.

To the company's offer, \$19.30, for operating the system, there should be added, therefore, the interest and sinking fund charges on the cost of the lamps and automatic devices, namely \$1.99 per lamp year, making a total of \$21.29 per lamp year, or a saving, as compared with the Rising Sun Company's hand-lighting rate, of \$1.01 per lamp per year. This gives a gross saving for the ten years of \$111,100, as compared with the Rising Sun Company's hand-lighting rate. Turning to the last column of the table above, where the savings to be effected over the hand-lighting rate by the adoption of automatic lighting devices are given, it will be seen that the saving under the Pressure Lighting Company's offer would be greater than that effected by the adoption of automatic lighting by the Rising Sun Company in any year after the beginning of the third, but less than that effected if automatic lighting devices are installed by the Rising Sun Company before the beginning of the third year of the contract. In other words, if the Rising Sun Company's bid is accepted and automatic lighting adopted in either of the first two years, it will be cheaper for the city than under the Pressure Lighting Company's bid, but more expensive to the city if the installation of automatic lighting is delayed longer than two years after the beginning of the contract.

It should be noted that the city at the end of the contract period would own the lamps furnished by the Pressure Lighting Company, but would not own the lamps furnished by the Rising Sun Company. If the Rising Sun Company's bid should be accepted, the company would own the lamps at the end of the contract period, and the city would own the automatic

lighting devices which the company had installed. If the Pressure Lighting Company's offer should be accepted, the city would own both the lamps and the automatic lighting devices at the end of the contract period.

C. Respective Advantages of the Two Offers.

There are many elements to be considered in weighing the respective advantages of these two offers. For example, it cannot be known in advance how soon the Rising Sun Company would install automatic lighting devices; nor, on the other hand, is it certain that the Pressure Lighting Company would undertake the work of operating the lighting system even if it were awarded the contract on its informal offer, as the offer was not accompanied by a certified check, and the city has no guaranty of the financial responsibility of the company. The Rising Sun Company made its bid in good faith, within the time specified in the public advertisement, and accompanied the bid with a certified check for \$5,000 as a guaranty of its willingness and ability to perform the contract. There can be no doubt as to its financial responsibility. If the case is to be decided upon a comparison of the advantages of closing a contract with one or the other of these two companies, some consideration should be given to the fact that the bid of the Rising Sun Company was made in the regular way, while the offer of the Pressure Lighting Company was irregular. Some consideration may well be given to this fact for the sake of the city's reputation for fair treatment of bidders and observance of its published rules — a reputation which can be made a valuable business asset. The known responsibility of the Rising Sun Company and the lack of knowledge concerning the financial status of the Pressure Lighting Company should also be considered; and another factor which, in the opinion of the commission, should be considered as favorable to the Rising Sun Company is that it would

assume the entire risk of loss due to defective automatic devices, whereas the city would have to assume the entire loss due to defective automatic devices if it accepted the offer of the Pressure Lighting Company. These three factors seem to be decisive in favor of the Rising Sun Company as against the Pressure Lighting Company.

4. CONTRACT OR MUNICIPAL OWNERSHIP AND OPERATION.

A. The Narrow Field of Competition.

The hope of inducing the Consolidated Gas Company, which furnishes the gas, to furnish the lighting equipment also, and to operate the system at a low figure, thus eliminating the middleman, has departed, as the company, for reasons of its own, has definitely declined to perform this service.

The city is therefore left to choose between the plan of owning and operating its own gas lighting equipment or accepting the bid of the Rising Sun Company. If the company should install automatic devices in either of the first two years of the contract, the average price for the ten-year term of the contract would be lower than any price the Rising Sun Company or any other responsible company has ever before offered to the city; even lower than the cost to the city under the terms of the offer made by the Boston Consolidated Gas Company, on June 23, 1909, namely \$20.51, plus the cost to the city of installing lamps at its own expense. It is considerably lower than the price (\$22.31) for which the Edison Electric Illuminating Company will furnish incandescent lamps. In the opinion of the commission it is lower than any other street lighting company can afford to offer, as such a company would have to make a large capital investment for lamps, whereas the Rising Sun Company has its lamps installed and its capital investment has already been returned to it in earnings from its previous contracts with the city.

B. Relative Illuminating Power of Upright and Inverted Mantle Lamps.

The proposed contract, as already stated, provides more effective means for testing the lights and enforcing penalties for failure to maintain them at 60 candle power than the previous contracts provided. Inverted mantle lamps will give the required illumination, but upright mantle lamps will not unless reflectors are used and mantles are more frequently renewed than formerly. Even then, in the opinion of the commission, the upright lamps will not give as much illumination as inverted lamps would furnish. In weighing the respective merits of municipal operation under a system of inverted mantle lamps and the Rising Sun Company's system of upright mantle lamps, some allowance should be made for the superior illumination furnished by the inverted lamps. The use of inverted lamps by the Rising Sun Company would require the removal of its upright lamps, with accompanying loss, and involve a new expenditure of capital, and its representative has stated definitely that the company will not furnish inverted lamps.

C. The Principal Question Involved.

The main question to be decided by the Mayor and City Council is whether the city shall take half the net savings due to the use of automatic lighting devices installed at the expense and risk of the Rising Sun Company, or seek to obtain all the savings due to the use of such devices by installing them at its own expense and taking the risk of their failure to operate satisfactorily.

D. The Capital Expenditure and the Estimated Savings.

The city would have to expend about \$181,000 for inverted mantle lamps and from \$88,000 to \$132,000 for automatic devices, according to the type of automatic device selected; in other words, from \$269,000

to \$313,000. The commission's engineer has estimated the cost to the city of maintaining the inverted lamps and automatic devices through the use of its own labor force at \$18.98 per lamp year. This includes interest and sinking fund charges computed on a ten-year basis. As a result of this system the city will have better light, will pay for its plant during the ten years and should save a considerable sum besides.

It is not expected that the Rising Sun Company or the city would be able to complete the installation of automatic devices earlier than one year after the beginning of the contract. The following comparative costs are figured upon that basis. The average cost to the city, through the operation of its own system, for the ten years beginning August 1, 1911, would be \$19.44 per lamp year. This assumes that in the year during which the city installs the automatic lighting devices it will pay \$23.60 per lamp year for lighting, and for the remaining nine years after the installation has been completed \$18.98 per lamp year. If the Rising Sun Company receives the contract and installs the automatic lighting devices in the first year the cost to the city would be \$22.30 for the first year and \$20.67 for each of the nine succeeding years, or an average of \$20.83 per lamp year. In other words, the cost under municipal operation would be \$1.39 less per year, or \$152,900 less during the ten years, even on the most favorable assumption to the Rising Sun Company. It is to be noted, however, that the contract does not give the Rising Sun Company the right to install automatic lighting devices on its own initiative, but compels it to obtain the consent of the city, or, if the city does not consent, to obtain a decision of the board of experts requiring the installation. If through any cause the company did not install the automatic lighting devices, in that event the cost to the city would be \$22.30 per lamp year for the entire ten years, or \$2.86 more than the cost to the city under

municipal operation of the lighting system. This would be an excess cost to the city of \$314,600 in ten years.

Part of the great saving thus effected by the city's operation of its own plant, as compared with the price it would have to pay the Rising Sun Company, will be due to the use by the city of inverted mantle lamps, which are cheaper to maintain than upright mantle lamps, such as the Rising Sun Company maintains; part will be due to the fact that only one supervisory force will be necessary, whereas two such forces would be required if the Rising Sun Company had the contract; part will be due to the taking by the city of the profit of the middleman, exclusive of the saving by automatic devices; and the greatest part will be due to the fact that the city will take all the savings effected by the use of automatic devices instead of dividing them equally with the Rising Sun Company.

E. The Risks Involved.

In the opinion of the commission's engineer, there will be no danger of the total failure of automatic devices, nor even of such partial failure as to make it necessary for the city to consider returning to the hand-lighting system. The only risk would lie in making an investment in a particular device which might either be improved upon or excelled by another device invented at a later period. Such automatic devices must in any event be more economical than lighting by hand, as an efficiency of between 95 per cent. to 100 per cent. has been shown by tests of the present devices in this city and it is inconceivable that any superior device can be invented which could profitably be substituted within the period of the contract. In some cases between 99 and 100 per cent. of efficiency has been reached, the highest known to the commission being 99.76 per cent. The city would therefore take practically no risk in purchasing automatic devices, and it would take no appreciable risk in pur-

chasing the inverted mantle lamps in connection with which automatic lighting devices would be used. There is no doubt that inverted mantle lamps would work well and the illumination would be superior to that of upright mantle lamps.

Practically the only risk which the city would take would be in operating its lighting system with its own labor force, which may prove inefficient and would therefore entail unnecessary expense. Thus, if the force should be increased unnecessarily, or those members of the present contractor's lamp lighting force who would not be needed for lamp lighting should be given positions in other city departments, created for them but not necessary in fact, at least part of the saving effected by the use of automatic lighting devices would disappear. In this event the cost to the city might be greater than it would have been under the contract with the Rising Sun Company, provided that company had used automatic lighting devices.

If the situation were the same now as it was when the commission recommended the purchase by the city of its own lighting equipment and its operation by city labor, the commission would renew such recommendations without hesitation. (See Finance Commission Report, Volume 6, pages 71, 102.) But the situation is entirely different now. The Rising Sun Company's price then was \$23.60 per lamp year, or about \$2.77 per lamp year more than the average price the city will have to pay if the company should install automatic devices in the first year of the proposed contract; in other words, the city would pay in the ten years under the new contract about \$300,000 less than it would have to pay if the former rate prevailed. Moreover, the city will be better lighted than formerly as a result of the more stringent provisions for maintaining the lamps at 60 candle power.

The city could afford to encounter the dangers of municipal ownership and operation at the time the commission made the recommendations above referred

to better than it can now, because the Rising Sun Company's price was then so high that the city would have been warranted in taking considerable risk in order to obtain relief from an excessive burden. That burden will be so greatly reduced, if the proposed contract with the Rising Sun Company works as favorably as it is expected to, that there is not nearly the same inducement for taking the risk of municipal ownership and operation as there was formerly.

The possible saving under municipal ownership and operation, however, of about \$150,000 in ten years over the lowest anticipated cost under the proposed contract with the Rising Sun Company, plus the value of the lamps at the expiration of ten years, offers considerable inducement to the city for assuming the risk of inefficiency in its labor force and the padding of the pay rolls. The automatic devices, as already noted, would be the property of the city either in the event of the city installing its own plant or in case of making the contract with the Rising Sun Company.

The risk of loss due to inefficiency in the labor force is not so great as it would be in some other branches of the city's service, as there are more effective means of checking up the work of every employee engaged in the street lighting service than there are in most other kinds of municipal service, and therefore waste could more easily be prevented. Moreover, the possibility of padding the street lighting pay rolls would not be great, as the amount of work each employee should perform could be easily calculated. The maximum number of lamplighters required under the present hand-lighting system is 128, and not over 50 of them would be required under the automatic lighting system for cleaning and repairing lamps and doing inspection duty. If an attempt were made to employ a number in excess of 50, it would be such a flagrant waste of the city's money as to constitute a clear case for public criticism.

CONCLUSION.

In view of the many factors involved in the problem, of the uncertainty of the final result of the experiment of municipal ownership and operation of a street lighting plant, and of the fact that the Rising Sun Company's offer is as low as could be reasonably expected from a company which intends to make a profit, the commission regards the company's offer with considerable favor; but it believes that the probabilities of success in this particular experiment in municipal operation outweigh the chances of partial failure in the automatic devices or of inefficiency in the small labor force required. Therefore, viewing the matter merely from a financial standpoint, the commission recommends the purchase by the city of a complete equipment of inverted mantle lamps with automatic devices and the operation of the plant by its own force.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

APPENDIX A.

It is hereby agreed between the parties that by joint consent this contract may be modified as follows: If during the term hereof any automatic device for lighting and extinguishing said incandescent mantle lamps proves to the satisfaction of both parties hereto (a) to be obtainable, (b) to be practical in operation, (c) to reduce the cost of maintaining said lamps, then and in that event the contractor shall install such device on all or part of said lamps, when said device can be practically operated, at his own cost and expense, and will rebate the price paid by the city for each lamp hereunder a sum equal to 50 per cent. of the net saving caused by the use of said device. The installation of such devices on each gas lamp in the service shall be completed within six

months after the date on which the parties herein agree that said devices shall be installed. The cost of such installation, including the interest and sinking fund charges, computed upon the basis of the number of years the contract has to run beyond the date when the installation is completed, shall be ascertained and agreed upon; said cost shall then be divided by the total number of such devices installed in order to ascertain the cost of each such device. The saving per lamp year effected by the use of such devices shall be ascertained and agreed upon by the parties herein, and the cost per lamp year of such devices shall be deducted from the saving per lamp year thus ascertained, and shall be regarded as the net saving resulting from the use of such devices. The share of the net saving due the city shall be deducted from the contract price per lamp year.

All such devices as have been installed pursuant to these provisions shall become the property of the city upon the expiration of this contract.

In case of dispute as to the amount of net saving, the books of the contractor shall be audited by a certified public accountant to be chosen by the parties, whose report as to the amount of the net saving shall be accepted as final, conclusive and binding upon both parties, except as such accounts may be incorrect or evasive of the complete facts. If the parties cannot agree as to who shall audit the books of the contractor, the Commissioner of Public Works and a representative of the contractor shall select a third person to act with them in the selection of a certified public accountant to make the said audit, and the person chosen by the three persons aforesaid shall be accepted by the city and the contractor.

In case of disagreement between the City of Boston and the contractor as to the advisability of installing said device, such differences shall be determined and adjusted by three experts, one to be chosen by each party and the third by these two, and their decision shall be final and conclusive on both parties.

APPENDIX B.

ESTIMATE OF LAMPLIGHTERS' UNION.

Cost of ownership and operation (including charges for purchase, interest, maintenance and depreciation) of a municipal lighting plant.

	Per lamp year.
Labor on a basis of \$2.25 per day, 90 lamps to route	\$9 13
Gas (78 cents per thousand feet)	9 30
Globes (\$9 per dozen), one-third of globe	25
Domes (\$6 per dozen), one-fifth of dome	10
Chimneys (72 cents per dozen), two and one-half	15
Ventilators (26 at 85 cents each)	02
Mantles (\$90 per thousand), four and one-half	40
Burners (245 at \$225 per hundred)	05
Maintenance of repair shop, \$6,000 per year	54
Cost of operation and maintenance of lamps	<u>\$19 94</u>
 Purchase for plant of 11,000 lamps at \$11.50 each, installed, \$126,500	00
Interest on purchase of bonds at 4 per cent. (\$5,060)	46
Depreciation of plant, \$2,000 per year	18
Total cost of ownership, maintenance, operation and depreciation	20 58
Lowest bid submitted to city for street lighting	22 30
Saving to city by establishment of municipal lighting plant	1 72
Saving to city in one year by establishing municipal lighting plant	18,920 00
Saving to city in ten years, the life of proposed contract, by establishing a municipal lighting plant	\$189,200 00
Deducting cost of plant	126,500 00
 Leaving to the city at end of contract term a complete lighting plant free from all debt, and a surplus of cash amounting to	<u>\$62,700 00</u>

ESTIMATE OF GUY C. EMERSON.

For cost of operating a municipal lighting plant of 11,000 upright mantle lamps, with wages at \$2.25 per day and 90 lamps per lamplighter; cost of lamps, \$9.50 each, installed complete; gas charges estimated on basis of 12,000 cubic feet of gas per lamp year.

	Per lamp year.
Gas	\$9 470
Labor	9 110
Repairs and renewals	2 070
 Carried forward	<u>\$20 650</u>

	Per lamp year.
<i>Brought forward</i>	\$20 650
Salaries and wages in addition to present pay roll, exclusive of lamplighters	350
Interest on stock on hand, \$5,000 at 3½ per cent., \$175 per year,	016
Lanterns, torches, alcohol, etc.	050
Liability insurance	082
Fire insurance	033
Office supplies in addition to present cost, \$110 per year	010
Allowance for loss of rent of shop	110
Laboratory expenses, \$200 per year	018
Removal of lamps	010
Teaming in addition to present equipment	120
Broken lamps and posts	036
Maintenance and operating charges	\$21 485
Interest and sinking fund charges on ten-year basis	1 140
Total yearly cost	\$22 625
For operating costs of such plant with automatic lighters, deduct estimated saving	3 350
Total cost with automatic lighters	<u>\$19 275</u>

ESTIMATE OF LAMPLIGHTERS UNION OF BOSTON.

*Cost to the City of Boston to install, maintain and operate 11,000 single
mantle inverted burner street lamps.*

	Per lamp year.
Globes, one-half	\$0 25
Chimneys, one-quarter	02
Mantles, one and a quarter	10
Maintenance of repair shop, \$6,000 per year	54
Depreciation of plant, \$2,200 per year	20
Interest on \$185,000 expended in the purchase and installing of 11,000 inverted burner street lamps at \$17 each, at 3 per cent , \$5,500	51
Labor at rate of \$2.25 per day, 100 lamps to route	8 21
Gas, 80 candle power	10 61
Total cost to install, operate and maintain	<u>\$20 44</u>
Lowest bid offered to the city for its street lighting, which is for a lamp with upright burner giving 20 candle power less light than the lamp figured on in this estimate	\$22 30
Showing that the city will not only obtain a vastly superior light, but will also save	1 86
Which means a saving to the city each year of	20,460 00
Which in ten years, the term of proposed contract, would amount to	204,600 00
Enough to pay for entire plant and leave a surplus of	19,600 00

ESTIMATE OF GUY C. EMERSON.*

For cost of operating a municipal lighting plant of 11,000 inverted mantle lamps, with wages at \$2.25 per day and 100 lamps per lamplighter, cost of lamps \$16.50 each, installed complete; gas charges estimated on basis of 12,000 cubic feet of gas per lamp year.

	Per lamp year.
Gas, including pilot flame	\$9 960
Labor	8 212
Repairs and renewals	870
Torches, ladders, oil, etc.	050
Salaries and wages in addition to present pay roll, exclusive of lamplighters	350
Interest on stock on hand, \$2,500 at 3½ per cent., \$87.50 per year	008
Liability insurance	082
Fire insurance	033
Office supplies in addition to present cost, \$110 per year	010
Allowance for loss of rent of shop	110
Laboratory expense, \$200 per year	018
Removal of lamps	010
Teaming in addition to present equipment	120
Broken lamps and posts	036
Maintenance and operating charges	\$19 869
Interest and sinking fund charges on ten-year basis	1 987
Total cost per lamp year	\$21 856
For operating costs of such plant with automatic lighters, deduct estimated saving	2 880
Total cost with automatic lighters	<u>\$18 976</u>

* It should be noted in connection with the above estimates that interest and sinking fund charges are estimated on a ten-year basis and that consideration should be given to the value of the plant at the end of that time. If interest and sinking fund charges are estimated on a fifteen-year basis, which may be fairly estimated as the time of the lamps becoming obsolete, the price estimated per lamp year in each case will be materially lower; in case of the upright mantle lamps 32 cents can be deducted, and in the case of the inverted mantle lamps, 44 cents.

APPENDIX C.

April 26, 1911.

To the Finance Commission:

GENTLEMEN,—I respectfully submit herewith the following criticisms of the estimates of the committee of the Lamplighters Union for installing and operating under municipal control street lighting appliances with upright mantle burners and inverted mantle burners, respectively. The criticisms, except as otherwise stated,

apply to both of the estimates furnished by the Lamplighters Union. Some of the inaccuracies in the estimates of the Lamplighters Union are as follows:

The price of gas in the estimate for upright mantle lamps seems to be too low. It is not clear what basis was taken in calculating the probable amount of gas to be used, but whether an arbitrary amount of 12,000 feet per year was taken, or the actual amount burned at the rate of 3 cubic feet per hour for the schedule of 3,887 hours, the figures appear to be incorrect.

The estimate has also apparently neglected to allow for the fact that the price of gas is higher in East Boston and Charlestown than it is in the other parts of the city. The city will probably have to pay at the rate of 78 cents per thousand feet of gas furnished in all parts of the city, except East Boston and Charlestown; 85 cents in Charlestown and 90 cents in East Boston. There are 530 gas lamps in Charlestown and 555 in East Boston. As each lamp will consume about 12,000 feet of gas per year and the cost per thousand feet in Charlestown and East Boston is respectively 7 and 12 cents more than in other parts of the city, the cost per lamp year in Charlestown and East Boston respectively will be 84 cents and \$1.44 per lamp year more than in other parts of the city; and this excess will raise the total cost to \$9.47 per lamp year, or 11 cents above the estimated cost on the basis of 78-cent gas for the 11,000 lamps provided for in the contract.

The union has also based its estimate of labor cost upon the assumption that each lamplighter would cover a route containing 90 lamps. The lamplighters are able to cover a 90-lamp route for the present contractor, but it is doubtful that they would do so if they were directly employed by the city. When they were directly employed by the city the average number of lamps per lamplighter's route was 84 and it is probable that they would not cover a larger route than they did formerly. On the basis of an 84-lamp route, the labor cost will be \$9.77 per lamp year, or 64 cents more than

their present estimates for upright mantle lamps, and \$1.56 more than their estimate for inverted mantle lamps.

In my opinion the union has also underestimated the number of globes, domes, chimneys, mantles and burners required for efficient maintenance of the lamps on a 60 candle power basis in both estimates. To maintain the upright mantle lamps at the same low candle power as formerly, the equipment upon which the union furnished its estimate might possibly be sufficient, if extraordinary precautions were taken against waste, but if the lamps are maintained at 60 candle power or more, as the city's interests require, the amount of equipment estimated by the union would be entirely inadequate.

The union has also omitted to allow anything for the following items:

1. Painting lamps and posts.
2. Torches, ladders and cleaning materials.
3. Interest charges on stock on hand not in use.
4. Damages resulting from fire or accident.
5. Office charges in addition to present charges, including telephone, postage, stationery, blank forms of reports and office furniture.
6. Expense of maintaining a laboratory for testing lamps.
7. Cost of changing location of lamps.

The union has estimated \$6,000 for the maintenance of the repair shop. A committee of the Lamplighters Union has informed me that this amount included salaries, rent and teaming. It is possible under city control that the pay roll cost of maintaining the repair shop, including the services of a superintendent, two assistants, a clerk, a stockkeeper and watchmen, would amount to approximately \$6,000, an amount in excess of the actual needs, but probably no greater than what the city would expend if it undertook the management of the shop. There would also have to be an expenditure for tools and mechanical appliances. An amount of at

least \$1,300 per year should be included for teaming and a bookkeeping charge of \$1,200 per year for rent on account of the fact that under the present contract the city receives \$1,200 per year for its shop from the Rising Sun Company.

The union also seems to have fallen into error in assuming that the depreciation charge for the lighting plant would be only \$2,000 a year for upright mantle lamps, and only \$2,200 for an inverted mantle equipment. The estimated cost of the plant with upright mantles is \$126,500, and the depreciation charge of \$2,000 per year seems to be based upon the theory that the average life of a lamp is sixty-three years. No lamps of either type can fairly be expected to last one-half of this period, and, moreover, it is almost certain that the upright mantle type of lamp will be obsolete in fifteen years, or less than one-fourth of that period.

The union, though making an allowance for interest on the bonds sold to purchase the plants, has made no allowance for a sinking fund charge. In my opinion interest and sinking fund charges should be based upon the bonds issued for a term of fifteen years, the estimated life of the equipment. On this basis, with interest charges at $3\frac{1}{2}$ per cent. and sinking fund income at $3\frac{1}{2}$ per cent., compounded semi-annually, on an investment of \$126,500, the annual sinking fund and interest charges would be approximately \$11,550, or \$1.05 per lamp year. The union's allowance, however, for both interest and depreciation charges for upright lamps amounts to only 64 cents per lamp year, or 41 cents less than would be required for interest and sinking funds. In estimating the actual cost of municipal operation, as contained in Appendix B, a ten-year period has been assumed as a basis for calculating interest and sinking fund charges. On this basis the annual charges would be \$1.28 per lamp year, or 64 cents more than the union's estimate. The value of the plant at the end of the ten-year period should be taken into consideration.

As regards the cost of an upright mantle lamp equipment, in my opinion the price of \$11.50 estimated by the union is too high and a suitable plant should not cost more than \$9.50 per lamp.

The estimate of the Lamplighters Union is so defective as to be of little value in making a comparison with the price offered by the Rising Sun Street Lighting Company.

Respectfully submitted,

GUY C. EMERSON,
Consulting Engineer.

COMMUNICATION TO THE MAYOR IN RELATION TO CERTAIN BIDS FOR SUPPLYING COAL TO THE CITY OF BOSTON.

BOSTON, May 8, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,— In response to Your Honor's request of May 4, 1911, the Finance Commission has investigated certain bids for supplying coal to the city, and submits the following report:

The Superintendent of Supplies on April 15, 1911, invited proposals for "a supply of whatever hard white ash, broken egg and stove coal, and also whatever bituminous coal for steam purposes, that may be required for the public buildings and for the several departments of the City of Boston not otherwise provided for, from May 1, 1911, to November 1, 1911." The coal is to be delivered at the various engine houses, police stations and other public buildings throughout the city, except the schools, the Public Library and the City Hospital; deliveries are also to be made upon public streets when coal is needed for engines used in connection with municipal construction. The various kinds of coal required and the approximate quantities of each are as follows:

Furnace	3,000 tons.
Egg	3,750 tons.
Stove	1,500 tons.
Bituminous (soft coal)	2,500 tons.
Screenings	300 tons.
	<hr/>
	11,050 tons.

Four bids were received, as follows:

	3,000 Tons. (Furnace.)	3,750 Tons. (Egg.)	1,500 Tons. (Stove.)	2,500 Tons. (Soft.)	300 Tons. (Screenings.)
No. 1.	\$5 44	\$6 03	\$6 03	\$4 18	\$2 50
No. 2	5 60	6 25	6 25	4 25	2 50
No. 3	5 90	6 40	6 65	4 25	2 50
No. 4.	6 00	6 50	6 75	4 25	2 50

As no question has been raised as to the reasonableness of the price of screenings, they will not be referred to hereinafter.

The Superintendent of Supplies awarded the contract to the lowest bidder and sent the contract to the Mayor's office for approval on April 28, 1911, but the required approval has not yet been given. In Your Honor's letter to the commission the reason for withholding the approval is stated as follows:

The *Commercial Bulletin* reports that the prices for March and April, 1911, on the same coal are identical with those of last year. Under the circumstances it seems to me that the increases are uncalled for and may be due to causes which would warrant investigation by your commission. I have withheld my signature from the contract and before affixing it shall await an expression of opinion from you as to the advisability of making the award.

The lowest bids of last year as compared with the lowest bids of this year are as follows:

	Lowest Bidders For		Excess Over Last Year.
	1910.	1911.	
Furnace.	\$5 25	\$5 44	\$0 19
Egg	5 75	6 03	28
Stove.	5 75	6 03	28
Soft.	4 00	4 18	18

The facts above stated raise two questions:

1. Why are the lowest bids of this year higher than the lowest of last year.

2. Whether the lowest price offered this year is reasonable.

These are the questions which the commission assumes that Your Honor wishes to be answered.

I. REASONS FOR THE EXCESS.

The commission has interrogated the Superintendent of Supplies, all four of the bidders for the contract, and several other retail and wholesale coal dealers. These various witnesses agreed upon two important points:

(a) That the quantity of coal available on the 1st of May this year is very much less than the quantity available on May 1, 1910.

(b) That the continued cold weather in the spring months of the present year has caused consumers to burn up most of the coal they had on hand and has thus created a necessity for earlier deliveries to such consumers in the present year than were required one year ago, when the quantities on hand were larger, owing to the higher temperature and consequently smaller consumption of coal during the early months of that year.

The commission believes there is a scarcity of coal this year as compared with the abundant supply of last year, and it also believes that the continued cold weather in the early months of the present year has caused a larger consumption of coal and has consequently created an unusually large demand for early deliveries in the present year. The following table, taken from the records of the United States Weather Bureau, shows that the average temperature in the first four months of 1910 was considerably higher than that of the corresponding months of the present year.

Average Temperature.

	1910.	1911.
January.....	32.0	31.8
February.....	29.5	27.0
March.....	42.0	35.4
April.....	51.6	46.1

These facts show that the local coal dealers had more reason for offering coal at retail at low prices last year than they have this year, even though wholesale prices were the same in both years. The local conditions of supply and demand affected the retail prices in these two years, the price being lower last year as the demand was less and the supply greater than in the present year. Even though wholesale prices should be the same in two different years, it is obvious that if a dealer in the first year had a large stock on hand and the demand were light, he could afford to sell cheaper than he could in the second year with a small stock on hand and a large demand.

The testimony of the dealer who made the lowest bid last year throws further light upon the question. He stated to the commission that he desired to keep his men employed throughout the summer and also to keep his plant in active operation. He expected that business would be very dull during the summer months, and, as he had a large quantity of coal on hand which he was anxious to dispose of, he believed it was good business to sell to the city at a very low price. When asked why he did not offer equally low prices this year, he stated that he actually lost money on the contract last year, and did not wish the experience repeated. He also said that as the supply of coal is smaller and the demand for coal larger this year than it was a year ago it will be easier for him to keep his entire plant in active operation this year without the city's business than it would have been last year.

The commission believes the increase in the amount of this year's bids over last year's is sufficiently explained by the foregoing facts. The more important question is whether the lowest bids of this year are reasonable.

II. REASONABLENESS OF THE PRICES.

All of the coal dealers consulted by the commission have stated with considerable emphasis that the prices offered by the lowest bidders in this year's competition

are very low. Each of the other bidders has stated that he would not be willing to take the contract at the prices offered by the lowest bidder, and most of the dealers consulted by the commission, including the unsuccessful bidders, say that the lowest bidder will actually sustain a loss instead of making a profit on the contract. The commission is unable to state whether there will be any profit to the successful bidder at the prices offered, but it seems fairly certain that, if any profit is made, it will be a small one. There is apparently no ground for believing that the profit will be high enough to justify Your Honor in considering it unreasonable.

In arriving at this conclusion the commission has taken into account the statements of the Superintendent of Supplies and of various coal dealers, the prices quoted in trade journals, together with the commission's own knowledge of conditions existing with reference to the delivery of coal in various public buildings and grounds. A great deal of the coal will have to be delivered in small lots. Thus, the quantities delivered in the various engine houses and police stations will range from one to twenty-five tons, according to the size of the bins. Deliveries on streets will often be required in one or two ton lots. In the majority of all cases the deliveries will be in lots of from two to five tons, though in some cases the deliveries will be very much larger. The distances also will be great in many cases. A large allowance for carting, therefore, must be made on account of the long hauls, and small deliveries. What this allowance should be the commission cannot determine, but it is probably safe to allow an average of 50 cents a ton. One of the largest dealers in the city stated to the commission that he kept a record of his deliveries in the years ending April 1, 1909, and April 1, 1910, and that the average labor cost of making deliveries was 57½ cents a ton.

In addition to the cost for carting, certain allowances should be made for loss in handling coal, as the dealers

state that a great deal of the coal is pounded into dust in the process of handling, and this dust is sold as screenings for \$2.50 a ton, or about one-half of the wholesale price of the coal. One of the dealers estimates that the average loss due to this cause is 30 cents a ton. The cost of discharging coal from the barge to the dealer's wharf should also be allowed for. The average price of discharging seems to be 20 cents a ton where the dealers have plants of their own. If a stevedore is employed the price is 25 cents a ton. Taking these charges, which alone amount to \$1 a ton, and without making any allowance whatever for such fixed charges as insurance of plant, interest on capital, clerical service, rent, labor other than that of teamsters, superintendence, repair of harnesses and wagons, and care and maintenance of horses, etc., the cost of furnace coal to the dealer would be \$5.24 a ton, as shown in the following table:

Furnace Coal.

Ton of 2,240 pounds — wholesale price	\$4 75
Ton of 2,000 pounds — wholesale price	\$4 24
Discharging	20
Loss in handling	30
Carting	50
	— \$5 24

Thus it appears that the maximum profit to the dealer on furnace coal, excluding all the fixed charges previously mentioned, would be 20 cents a ton. Even though it be assumed that the cost of discharging, carting and loss in handling could be reduced below the figures given in the above table, the fixed charges already mentioned would unquestionably bring the cost to the dealer above \$5.24 per ton. The commission thinks it is safe to assume that the dealer will probably not make more than ten cents a ton on furnace coal under any circumstances, and it is not prepared to deny his statement that he will make no money on it, or the statements of other dealers that he is bound to lose money on the contract as a whole.

The wholesale price of egg or stove coal is \$5 a ton of 2,240 pounds, or \$4.46 for a ton of 2,000 pounds. Allowing \$1 a ton for carting, discharging and loss in handling, the cost to the dealer, excluding the fixed charges already mentioned, will be \$5.46 a ton, and the maximum profit 57 cents a ton. It is probably safe to assume that, deducting the fixed charges aforesaid, the net profit to the dealer would not exceed a maximum of 25 cents a ton. The commission believes this statement is extremely conservative, and it begs Your Honor to note in connection with it that none of the many coal dealers consulted by the commission believe that there will be a profit to the contractor upon any of the various kinds of hard coal required. The commission therefore is not prepared to state that the price for egg and stove coal is unreasonable. On the contrary, it seems to be reasonable.

The price quoted by the lowest bidder for bituminous coal also seems to the commission to be reasonable. The contract calls for Pocahontas or New River coal. The price of either, at tidewater, is \$2.70 a ton, and the freight to Boston ranges from 60 to 70 cents a ton according to the size of the barge used to convey the coal. The smaller size of barges will be used in the proposed contract with the city, and the freight therefore will probably be 70 cents, thus making a total of \$3.40 a ton of 2,240 pounds delivered alongside the wharf in Boston, or \$3.03 for a ton of 2,000 pounds.

The price offered by the lowest bidder this year is \$4.18, or \$1.15 more than the cost of the coal alongside the wharf. Allowing 20 cents for discharging from the boat to the wharf and 50 cents for carting, the dealer would have a margin of 45 cents a ton, from which the various other fixed charges previously mentioned would have to be deducted before the actual profit could be ascertained. From all the evidence in the possession of the commission it seems fair to assume that these fixed charges would reduce the dealer's profit to not

exceeding 20 cents a ton. This is more than any dealer consulted by the commission has admitted could possibly be made on the bituminous coal under the proposed contract. Assuming, however, that 20 cents a ton may be made, the commission believes it is not an unreasonable profit.

The commission has not been able in the limited time at its disposal to make an exhaustive investigation of the cost of handling the various kinds of coal required by the pending contract, but the investigation seems to the commission to have been as thorough as the circumstances of the present case require. In arriving at the conclusion that the prices offered by the lowest bidder for the coal in question are reasonable, the commission has made estimates of the cost far below the estimates submitted by the coal dealers. If the coal dealers' estimates of the cost of handling the coal were taken, the profits of the contract would appear to be little or nothing. The various estimates of the average cost of handling hard and soft coal ranged from \$1.25 to \$1.42 a ton. If the lowest estimate is taken the actual cost to the lowest bidder and the profits and losses will be as shown in the following table:

	Cost to Dealer 2,000 Pounds.	Cost of Handling.	Total.	Cost to City.	Dealer's Profit.	Dealer's Loss.
Furnace	\$4 24	\$1 25	\$5 49	\$5 44	.. . . .	\$0 05
Egg.....	4 46	1 25	5 71	6 03	\$0 32	
Stove.	4 46	1 25	5 71	6 03	■	
Bituminous	3 03	1 25	4 28	4 18	.. . . .	10

As the quantities of furnace and bituminous coal, respectively, are 3,000 and 2,500 tons, and the losses 5 and 10 cents, the dealer's total loss on these two kinds of coal would be \$400; as the quantities of egg and stove aggregate 5,250 tons, and the gain 32 cents a ton, the profit on these two kinds of coal is \$1,680,

and the net profit to the dealer is \$1,280, or about 2.16 per cent. on the total amount (\$59,177.50) involved in the contract.

Even though this profit were doubled it would not seem to the Finance Commission to be an unreasonable one. Moreover, it should be noted that there will be an advance of 10 cents a ton on egg and stove coal in the months beginning the first of May and ending the first of September. If the lowest bidder, for any reason, should be obliged to buy during the summer months a portion of the coal required by the city, he would have to pay above the May 1 price and his profit upon the whole quantity of coal required would therefore be correspondingly reduced.

On all the evidence the commission believes it is justified in advising Your Honor to sign immediately the contract with the lowest bidder rather than to take the risk of advertising for new bids. As already stated, the probabilities are that coal will advance rather than decrease in price during the summer months, and there would seem to be a greater risk in advertising for new bids than in signing the contract already awarded by the Superintendent of Supplies.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

**COMMUNICATION TO THE COMMISSIONER
OF PUBLIC WORKS IN RELATION TO THE
AWARDING OF A CONTRACT FOR A NEW
FERRYBOAT FOR THE PUBLIC WORKS
DEPARTMENT.**

BOSTON, May 10, 1911.

MR. LOUIS K. ROURKE,

Commissioner of Public Works, Boston, Mass.:

DEAR SIR,— The Finance Commission submits herewith the report, promised in its communication to you dated May 9, 1911, upon the question of awarding a contract for a new ferryboat, bids for which were solicited by public advertisement on March 31, 1911, and upon which the following bids were submitted:

ITEM 1. FOR BOAT WITH STEEL HULL.

NAME.	Price.	Time.
Maryland Steel Company of Baltimore County, Sparrows Point, Md.	\$155,000 00	7½ months.
W. & A. Fletcher Company, Hoboken, N. J.	129,950 00	8 months.

ITEM 2. FOR BOAT WITH WOODEN HULL.

NAME.	Price.	Time.
W. & A. Fletcher Company, Hoboken, N. J.	\$127,450 00	8 months.
The Atlantic Works, East Boston, Mass.	121,450 00	7 months.
William McKie, East Boston, Mass.	120,750 00	7 months.
Bertelsen & Petersen Engineering Company, East Boston, Mass.	117,000 00	11 months.

At yesterday morning's conference between yourself, the Corporation Counsel, the chairman of the Finance Commission and the commission's engineer, you stated that you were inclined to award the contract

to William McKie as the benefit the city would receive from the lower price (\$3,750) of the Bertelsen & Petersen Company would probably be more than offset by the cost of repairing an old city ferryboat which would have to be kept in commission four months longer under the Bertelsen & Petersen bid than under that of William McKie, plus the cost of inspection for the extra four months. The letter of the engineer of the Bridge and Ferry Division to you, dated April 27, 1911, indicates that the cost of repairs and inspection would be about \$2,500, and the engineer of the Finance Commission estimates that \$1,500 will be sufficient, allowing \$1,000 for repairs and \$500 for extra cost of inspection. The commission's engineer also states that there would be an offset to this extra charge of about \$1,000, which represents the difference between the cost of operating the old side-wheel boat and the new ferryboat of the propeller type for the extra four months in question, his opinion being that the new boat would cost about \$9 a day more for oil, fuel and crew than the old boat would cost. If this allowance of \$1,000 be deducted from the \$2,500 estimated by the engineer of the Bridge and Ferry Division as the extra cost of repairs and inspection, there would be a difference of only \$1,500 in favor of William McKie in considering the comparative advantages of the William McKie and the Bertelsen & Petersen bids. If the estimate of the engineer of the Finance Commission is correct, the difference in McKie's favor would be only \$500. As Bertelsen & Petersen's bid is \$3,750 less than William McKie's, the former would be more advantageous to the city than the latter by \$2,250 or \$3,250, according as the estimate of the engineer of the Bridge and Ferry Division or that of the engineer of the Finance Commission is accepted as the proper basis of computation.

At yesterday's conference you also said that it might be proper, in weighing the merits of the William McKie

and Bertelsen & Petersen bids, to allow in William McKie's favor \$4,000 for hiring a boat for the extra four months during which the city would be obliged to wait for the boat if it should be built by the Bertelsen & Petersen Company. But, as already shown, it would be cheaper to repair an old boat, therefore there is no probability that a boat would be hired. Consequently, this means of calculating the respective advantages of the two bids in question is of no practical value.

You also stated yesterday that the William McKie bid seemed more advantageous to the city, viewed from another standpoint, to wit: that as \$35 a day has been fixed in the contract as the penalty for each day's delay to finish the work within the time stipulated by the bidder, that sum could fairly be taken as representing the value to the city of each day's service of the new boat, and that as William McKie offered to build the boat in seven months and the Bertelsen & Petersen Company offered to do it in eleven months, the four months' difference, at \$35 a day, or approximately \$4,200, should be added to the Bertelsen & Petersen bid, thus making it actually higher than the William McKie bid, although the latter is nominally \$3,750 higher than the Bertelsen & Petersen bid. This reasoning seems to the commission to be too artificial to be adopted as the basis of discrimination between the two bidders in question, particularly as the \$35 a day, fixed as a penalty, would greatly exceed the actual cost of repairing the old city boat so as to keep it in commission for the extra four months. In other words, on the highest estimate of the cost of repairs and inspection, the city would save money by accepting the Bertelsen & Petersen Company's bid.

The commission believes that the Bertelsen & Petersen Company's offer to build the boat in eleven months for \$117,000 is lower, all things considered, and also more advantageous to the city than the offer of William

McKie to build the boat for \$120,750 in seven months; and that the contract, therefore, should be awarded to the Bertelsen & Petersen Company. The commission believes that the Bertelsen & Petersen Company has fairly won the contract in open competition and should receive the award, but it believes the city would be justified in taking advantage of the later offer of the company to build the boat in seven months at the same contract price and under the same penalty for failure to deliver the boat within the seven months.

If, however, you do not agree with this conclusion, the commission believes that at all events you should not award the contract to the William McKie Company on its bid, as such action would result in financial loss to the city. If you are not convinced that it is your duty to award the contract to the Bertelsen & Petersen Company, then the contract should be readvertised and awarded to the lowest bidder. One week's advertisement should suffice under the circumstances. Before advertising the specifications should be changed so as to give bidders clear warning that time will be regarded as important in determining the award, and Article D of the contract should also be revised so as to exclude the present provision for extensions due to delay caused by strikes, lockouts, refusal of workmen to work, or other difficulties with workmen. As it stands, Article D of the contract weakens the effect of, if it does not tend to nullify wholly, the provisions for the penalty of \$35 a day contained in the specifications. The second paragraph in Article D of the contract would operate so as to relieve the contractor from the \$35 a day penalty during the time of the extension granted by the Commissioner of Public Works for any of the causes enumerated in the first paragraph of Article D of the contract, or granted by the Commissioner in his discretion for any other cause.

These provisions of the contract and specifications are as follows:

SPECIFICATIONS (PAGE 15)—WORK TO BE DONE.

Paragraph 3. The work is to be completed within..... months after the date of the contract, and for each day the completion of the work is delayed thereafter the contract sum is to be decreased by the sum of thirty-five (35) dollars.

Contract—Article D.

The contractor agrees to complete the work called for under this agreement, in all parts and requirements, on.....

.....or before..... provided, however, that the commissioner shall have the right at his discretion to extend the time for said completion of the work; and *provided, further*, that if from strike or refusal of workmen to work, or from difficulty with or lockout of workmen, or from tempest, war, or any cause not within the control of the contractor, the execution of the work hereby contracted for be delayed, the contractor shall be allowed such time to complete the boat as he shall have lost by any cause aforesaid, provided immediate notice of the occurrence of such strike, lockout or other aforesaid cause be given to the commissioner in writing.

Neither an extension of time for any reason beyond that fixed herein for the completion of any part, or the whole, of the work, nor the permitting of the contractor to go on and finish any work for which the time of completion has been extended, nor the acceptance of any part of the work called for by this contract, shall operate as a waiver of any of the rights of the city under this agreement.

An examination of these provisions shows that if time is considered as important in determining the amount of the contract, the benefits to the city, resulting from the operation of the penalty clause, may be entirely lost as the result of the operation of the liberal provisions for extensions under Article D of the contract. The present contract and specifications were not submitted to the Corporation Counsel for his approval, and in his opinion they are not drawn so as to secure to the city the full benefit of the penalty clause.

In his opinion Article D of the contract greatly weakens the effect of the penalty clause and the Finance Commission concurs in this opinion.

The present specifications do not give express notice to bidders that the time of completion shall be regarded as an important element in determining the award of the contract. If the Commissioner of Public Works intended, in determining the award, to give importance to the time of completing the boat, the specifications should have stated that fact in express terms. The provision left it open to the bidder to infer that the time and penalty clauses were inserted only to compel the contractor to deliver the boat at the stipulated time under penalty for failure; in other words, to give the city an effective guaranty that it should have the boat on the date agreed. A much better means of apprising bidders that time is to be considered important in determining the award would be that used by the United States Government in similar cases. Thus, in the specifications for the building of a cable boat for the United States the form used was as follows:

Bidders will state the number of days, exclusive of Sundays and state holidays, in which the work will be completed; the work will be performed at a time that will suit the convenience of the government; *time will be a factor governing award of contract.* A penalty of \$50 per day will, in the discretion of the quartermaster, generally be exacted for the number of days, exclusive of Sundays and state holidays, taken for completion of work over and above the number of days agreed upon.

In another case the United States Government used the following form:

Bidders are requested to state the exact time required before delivery of the machinery can be made, *as the time of delivery will be an important factor* in the consideration of the bids.

If the city had used a form like either of the two above, the bidders would have had no ground for complaining that they were left uncertain as to the importance of time in determining the award of the contract.

The commission recommends:

1. That the contract be awarded to the Bertelsen & Petersen Company for \$117,000.

2. That the time for completion be reduced from eleven to seven months, as proposed by the Bertelsen & Petersen Company in its letter to the Commissioner of Public Works, dated April 28, 1911.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

COMMUNICATION TO THE MAYOR IN RELATION TO PERMITS OR LICENSES FOR CERTAIN PRIVATE USES OF THE PUBLIC STREETS.

Boston, May 10, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,—The Finance Commission herewith submits its answers to the questions asked by Your Honor concerning permits or licenses for certain private uses of the public streets.

As Your Honor points out, section 28 of chapter 486 of the Acts of 1909 differs materially from the original draft as proposed by the Finance Commission. In each draft jurisdiction over various matters relating to the uses of the streets was transferred from the Board of Aldermen to the Board of Street Commissioners. The draft of the Finance Commission gave to the Mayor and City Council authority "to fix the terms by way of cash payment, rent or otherwise upon which permits or licenses for the *foregoing* purposes shall be issued." Among the "*foregoing* purposes" were specifically mentioned "signs, lamps and clocks." In the act which was passed, however (Acts of 1909, chapter 486, section 28), this broad power was limited, and the authority of the Mayor and City Council to fix terms was confined to certain specifically enumerated cases, among which signs, lamps and clocks do not appear. There would therefore seem to be no power in the Mayor and City Council under section 28 of chapter 486 of the Acts of 1909 to fix charges for the erection or maintenance of signs, lamps or clocks.

Chapter 571 of the Acts of 1910 was not intended to give power to fix rentals or charges for the use of the street. Its purpose was to enable a department issuing

permits to reimburse itself by a small charge for the actual cost of issue, inspection and similar expenses. No element of revenue by rent or otherwise was involved. The power to fix the fee is given to the head of the department, with the Mayor's approval, and not to the Mayor and City Council. Section 2 of this act in terms recognizes this difference.

The answer to Your Honor's first question, therefore, is that in the opinion of the commission it was intended that fees for street signs and lamps, as they cover only the cost of the issue of permits, should be placed under a different jurisdiction from those for coal holes, vaults, bay windows, marquises, etc., which involve the element of revenue.

Answering Your Honor's second question, viz.: "Whether in your opinion the fees mentioned in Items 13 and 14 of the inclosed list," viz.: "13. Placing and removing signs flat on buildings, 50 cents; 14. Projecting signs or lamps from buildings, \$1," "are sufficiently high," the commission finds that they are sufficiently high, as they are merely charges for the cost of the issue of the permits, inspection and similar expenses. Anything more than this does not seem to be within the power of the department.

The third question is:

Whether, since section 28 specifically uses the word "rent" and the phrase "the construction or use" of certain utilities, it would not be possible to charge an annual or periodic rather than an initial fee for the utilities and privileges named in that section.

To this the commission answers that in its opinion an annual or periodic fee may be charged, and considering the uncertainty as to the duration of the use of such utilities this is the more equitable plan.

The fourth question is as follows:

Whether the same practice could not be adopted for signs and lamps, particularly those that project over the sidewalks.

The commission, as already stated, in view of the phraseology of section 28, does not believe that any fee can be charged under that section for signs, lamps or clocks, although it agrees with the first Finance Commission that such a charge, for which the original draft of that commission provided, should be made. Of course a fee for the issue of the permit may be charged under chapter 571 of the Acts of 1910.

The fifth question is as follows:

Whether the system of annual fees if adopted could or could not be applied to signs and lamps now in existence, permits for which may have been issued by the Mayor and Board of Aldermen under the former statutes on this subject.

Under chapter 3, section 21, of the Revised Ordinances of 1898, every officer in charge of a department issuing a license or permit is required to insert therein a condition that it may be revoked at any time by the authority issuing it. If this ordinance has been observed all existing licenses and permits are subject to revocation; and if revoked new licenses must be obtained upon such terms as are in force at the time of their issue. The question does not seem to be material, however, for as already stated there would seem to be no authority for making a charge for signs, lamps or clocks under section 28.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

COMMUNICATION TO THE COMMITTEE
ON ORDINANCES IN RELATION TO A
SCHEDULE OF FEES FOR PERMITS FOR
COAL HOLES, VAULTS, BAY WINDOWS
AND MARQUISES.

Boston, May 12, 1911.

To the Honorable the Committee on Ordinances:

GENTLEMEN,—The Finance Commission has received from the Clerk of Committees a letter dated April 21, 1911, asking in behalf of the Committee on Ordinances certain questions concerning section 28 of the amended city charter (Acts of 1909, chapter 486).

First, as to the plan considered by the commission when the charter was amended as to the price to be charged for permits for coal holes, vaults, bay windows and marquises.

Second, as to the ideas of the present commission on the subject.

As the membership of the present commission is not identical with that of the first commission, the first question cannot be answered with certainty, but it is the understanding of this commission that the former commission refrained from passing on the question of the price to be charged for the purposes named, believing that the price should be determined and could be more equitably settled by the Mayor and City Council by ordinance after a full hearing of all parties in interest.

The present commission believes that the ordinance submitted by the Board of Street Commissioners, and the maximum and minimum sums therein established, fairly cover the case, if it is the intention to charge a single sum rather than an annual sum by way of rent.

It would be difficult to fix by ordinance the details of charges in individual cases, and that may well be left to the Board of Street Commissioners. If the charges fixed in individual cases by the Street Commissioners seem excessive, the Mayor and City Council may at any time amend the ordinance under which the Street Commissioners exercise the power.

The commission believes that a plan of annual charges by way of rental would be more equitable than a single permanent charge, because of the uncertainty of the duration of the term of the license, and it believes that this charge should be made as to existing as well as to future permits.

The commission understands that some question has been raised as to the right of the city to make these charges. Your attention is called to the opinion of the Justices of the Supreme Judicial Court, recently given to the House of Representatives (House Document No. 1814, April, 1911), in which they say:

The Legislature may require the payment of a rent to the city or town for the slight impairment or limitation of the previously existing public rights.

In view of this statement the Mayor and City Council should have no hesitation about fixing a fair and reasonable rental, leaving to those who do not believe the provision legal an opportunity to test the same before the courts.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

COMMUNICATION TO THE CITY COUNCIL IN
RELATION TO THE INSTALLATION OF A
SUITABLE SYSTEM OF HIGH PRESSURE
WATER SERVICE.

Boston, May 12, 1911.

To the Honorable the City Council:

GENTLEMEN,— On May 8, 1911, the Honorable the City Council referred to the Finance Commission for a report and recommendations two communications submitted to the City Council by the Fire Commissioner and by the Mayor, dated respectively April 26, 1911, and May 1, 1911, both of which recommended that the Council accept chapter 312 of the Acts of 1911, which provides for the installation of a suitable system of high pressure water service in the City of Boston. The act is to take effect providing it is accepted by the Mayor and the City Council.

The act, among other things, authorizes the Commissioner of Public Works to prepare plans and proceed to the immediate installation of the high pressure system, and it also authorizes the City Council to appropriate \$1,000,000 during the six years ensuing after the date of the acceptance of the act, the appropriation in each of the said six years to be not less than \$150,000 and the bonds issued under the act to be within the statutory limit of indebtedness. The appropriation of \$900,000 in the six years aforesaid is mandatory and the appropriation of an additional \$100,000 is permissive.

The commission has already stated its approval of the act in two communications, the first of which was sent to the General Court under date of February 18, 1911, and the second of which was sent to the Mayor and City Council under date of March 22, 1911. In the communication to the General Court the com-

mission, after recommending the rejection of other bills then pending which were unnecessary because no additional statutory authority was required to accomplish the purposes in question, stated in relation to the high pressure service bill the following:

On the same ground (i. e., that no additional statutory authority was required by the city) Senate Bill 295, providing \$1,000,000 for a high pressure water service, could be rejected; but as the bill seeks to establish definitely the policy of the city by providing that loans shall be passed in each year until the total amount authorized has been issued, thus insuring the completion of the work, an exception may well be made in this case. Moreover, this bill, unlike the others under consideration, provides that the act shall not take effect until it has been accepted by the Mayor and City Council. (House Document 1537.)

In the communication to the Mayor and City Council the commission stated the grounds upon which it recommended the passage of the bill. (See *City Record*, March 25, 1911, page 255.) In this communication the commission also said: "If the act is passed by the Legislature and accepted by the Mayor and City Council, the plan prepared by the late City Engineer William Jackson, and the less expensive plan suggested by former Fire Commissioner Benjamin W. Wells, should be considered before the contracts for the work are awarded, and the less expensive plan adopted, if it seems to afford adequate protection. The Finance Commission does not pass upon the respective merits of the two plans, but simply suggests their careful study in the interest of economy." It seems important that not only the executive department of the city government but also the City Council should inspect the plans before voting to accept the act. Such inspection, prior to the acceptance of the act, would enable the City Council to obtain a definite idea of the cost of completing the system before the city became irrevocably committed to the expenditure. If the plans are not

inspected by the City Council before the act is accepted the executive department will not be obliged to submit any plans whatever to the City Council for its examination, and the Council will be obliged to appropriate at least \$900,000 for the system in the six years after the acceptance of the act without knowing whether the money so appropriated will be sufficient to insure the completion of the system or how far the money so appropriated will go towards completing it, and therefore without knowledge of how much money may be required for its completion.

The commission recommends:

1. That the Council, prior to the acceptance of the act, request the executive department to submit the plan of the late City Engineer, or any modified plan that may have been prepared by the engineers in the Department of Public Works, and also request former Fire Commissioner Benjamin W. Wells to appear before the Council to explain his plan and to state its advantages and the estimated cost thereunder.

2. That after the inspection and careful consideration of said plans the City Council pass a vote accepting the act, provided that it feels assured that the executive department will adopt a plan which will secure an adequate high pressure service for not more than the sum appropriated.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

COMMUNICATION TO THE GOVERNOR OF
THE COMMONWEALTH OF MASSACHU-
SETTS IN RELATION TO THE PRESENT
AND PROPOSED METHODS OF ADMIN-
ISTRATION OF GRANTING OF PENSIONS
IN THE FIRE DEPARTMENT.

BOSTON, May 17, 1911.

*To His Excellency the Governor of the Commonwealth of
Massachusetts:*

SIR,—The Finance Commission, acting in pursuance of the authority given by section 18 of chapter 486 of the Acts of 1909, respectfully submits herewith a report upon present and proposed methods of administration respecting the granting of pensions in the Fire Department of the City of Boston.

The present law (Acts of 1892, chapter 347) makes provision for pensions that are not only just to the firemen but exceedingly liberal. A bill recently passed by the Legislature (House No. 804), and now awaiting Your Excellency's action, provides for changes in the present amply liberal law which are not required by any just consideration of the needs of the firemen, and which would impose unnecessary financial burdens upon the taxpayers of the city.

A comparison of the existing law with the proposed law shows the dangerous character of the intended changes.

1. The law now permits the Fire Commissioner, with the consent of the Mayor, to retire with pension any member of the Fire Department who has become disabled while in the actual performance of duty, without regard to the length of service or to the question whether the disability is permanent. The proposed law, however, permits retirement with pension in such a case, even

though the disability has not been incurred in the actual performance of duty.

2. The present law permits the commissioner, with the approval of the Mayor, to retire with pension any member who has performed faithful service in the department for a period of not less than fifteen consecutive years. The proposed law, however, permits such retirement without regard to the question whether the fifteen years' service has been consecutive or faithful.

3. The present law permits the Fire Commissioner to retire a member who has received from the physician to the Board of Health a certificate that he is permanently incapacitated, either mentally or physically, from performing his duties in the department. The proposed law, however, not only takes away the Fire Commissioner's discretionary power to refuse a pension in such a case, but actually compels him to grant it upon the certificate of the physician, even though the disability be only of a temporary nature. Thus, final responsibility is transferred from the head of the Fire Department, where it belongs, to an official of another department, where it does not belong. No matter how competent or faithful the physician of the Board of Health may be, he should not be given power to determine finally whether pensions should be granted to members of the Fire Department.

4. The present law makes no provision for retiring members who have served twenty-five years. The proposed law compels the Fire Commissioner, subject to the approval of the Mayor, to pension a member of the department upon his petition if he has served twenty-five years even though he is not disabled or incapacitated, but is mentally and physically sound and fully capable of performing efficient service in the department for many years. Under this provision one who entered the service at the age of twenty-one might demand retirement at the age of forty-six and then, in the full possession of his physical and mental vigor, engage in private employment or business and receive

in addition to his wages or profits a pension equal to one-half of the salary which he received while a member of the Fire Department.

From the foregoing it appears that under the proposed law there will be no discretionary power in the Fire Commissioner or the Mayor in a large number of the cases in which pensions will be applied for; that the safeguards of the present law, which require that the disability shall be permanent and shall be incurred in the actual performance of duty, are also removed, and that pensions may be granted to men in the prime of life absolutely without regard to the needs of the service or the financial condition of the city. If these changes are permitted the new law will be in flagrant violation of all principles justly applicable to a pension system, and will constitute a dangerous precedent which may result in similar changes in pension laws applicable to other classes of public employees, and consequently lead to even greater financial losses than those which will be the immediate result of the operation of the new firemen's pension act.

The Fire Commissioner and a representative of the Mayor from the city Law Department appeared before the committee of the Legislature which considered the proposed law and objected to its obnoxious features. These objections were unavailing, however, and the bill has been passed without any provision for its reference to the Mayor and the City Council for acceptance or rejection. If it becomes law it will impose serious financial obligations upon the city, not only without the consent of its regularly constituted authorities, but even against their opposition. The Finance Commission believes that the objections of the Mayor and Fire Commissioner are entirely sound, and therefore respectfully suggests that the act should not become law.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,

Chairman.
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COMMUNICATION TO THE GOVERNOR OF THE
COMMONWEALTH OF MASSACHUSETTS IN
RELATION TO HOUSE BILL 1904, WHICH
WOULD AUTHORIZE THE REINSTATE-
MENT OF A FORMER EMPLOYEE IN THE
PUBLIC WORKS DEPARTMENT.

Boston, May 24, 1911.

*To His Excellency the Governor of the Commonwealth of
Massachusetts:*

SIR,—The Finance Commission respectfully calls to Your Excellency's attention House Bill 1904, authorizing the reinstatement of a former employee in the Street Department of the City of Boston, a bill which seems to be obnoxious to the principles of the veto exercised by Your Excellency in the case of Charles A. Steppe and Horatio C. Chase, in whose behalf a bill was passed (House No. 753) authorizing their reinstatement in the Police Department of the City of Boston.

The former Superintendent of Streets, Guy C. Emerson, furnished to the Finance Commission the following record in the case of Mr. Shanley, in whose behalf House Bill 1904 has been drawn. Shanley was appointed a teamster in the Sanitary Division of the Street Department January 11, 1902; was made hostler April 17, 1903; was changed to dumper December 31, 1904, and finally made inspector December 20, 1905. In this latter capacity he continued until June 3, 1908, when Mr. Emerson, then Superintendent of Streets, suspended him, giving as the reason for his suspension that there was no work for him to do, and that therefore his services as inspector could be dispensed with. He was offered the position of teamster, with lower pay, but declined to accept. He then requested a hearing, but failed to

appear at the time and place fixed for the hearing and was suspended at the close of business on June 9, 1908, in accordance with the notice received by him on June 3. He later applied to the Supreme Court for a mandamus requiring the Superintendent of Streets to reinstate him. The court, however, dismissed the petition, but upon the request of Mr. Shanley has reported the case for the consideration and determination of the full court. The case has been pending before the full court since October 14, 1910. *

Since his discharge Mr. Shanley's name has been dropped from the civil service list. He has taken a civil service examination this year, however, and now stands No. 5 on the eligible list for the same position from which he was suspended. Under the civil service rules he must wait for appointment until he is one of the first three on the list. This he desires to avoid by having the laws of the Commonwealth changed so as to make an exception in his individual case. In other words, he asks that the civil service rules be suspended in his favor, to the end that he may be placed ahead of those on the list who in the examination won higher places.

There does not seem to be in the foregoing circumstances anything that even suggests that the slightest injustice has been done Mr. Shanley, or that any fact exists which gives him any moral claim to the suspension of the laws of the Commonwealth in his behalf.

Before the present bill was passed another bill had been passed in Mr. Shanley's favor, to wit. chapter 295 of the Acts of 1911, on which, however, his reinstatement was made subject to the approval of the Superintendent of Streets and the Mayor. It was brought to Mr. Shanley's attention at the time this act took effect, to wit, April 15, 1911, that there was no such official as the Superintendent of Streets of the City of Boston, that position having been abolished and superseded by a Commissioner of Public Works. Ac-

* Case was dismissed on motion of the petitioner May 26, 1911.

cordingly, a new act was drafted, authorizing his reinstatement upon the approval of the Commissioner of Public Works and the Mayor, but still containing the obnoxious provision that no civil service examination should be required.

The Finance Commission respectfully suggests the following objections to the act, any one of which, in the commission's judgment, should be fatal to it:

1. It is, in effect, an appeal to the Legislature over the heads of the courts which have jurisdiction and while the case is actually pending. It cannot be necessary to point out the dangers of such a precedent.

2. While the act is in form permissive, and therefore technically avoids an infringement of the principles of home rule, yet in spirit, intention and practical effect it is a flagrant violation of that principle. The intention of the act is to force the hands of the city authorities by bringing to bear on them the argument that the Legislature has favored reinstatement though it has not ordered it.

3. The act affords a precedent for over-riding the wholesome rules of the civil service. Tactics similar to those of the petitioner in this case have, in New York, created a line of precedents very demoralizing to the public service and a constant source of trouble to the executive.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

NOTE.—The bill became a law on May 28, 1911, without the Governor's signature, and Mr. Shanley was reinstated in the Public Works Department on June 6, 1911.

COMMUNICATION TO THE CITY COUNCIL
IN RELATION TO THE PROPOSED WIDEN-
ING OF MERIDIAN STREET BRIDGE.

Boston, May 27, 1911.

To the Honorable the City Council:

GENTLEMEN,—The Finance Commission received from the City Council on May 15, 1911, for investigation and report, letters from the Mayor, the Commissioner of Public Works and the engineer of the Division of Bridges and Ferries in the Department of Public Works (copies of which are hereto annexed), all of said letters being in relation to the proposed widening of the Meridian Street Bridge between East Boston and Chelsea.

The commission finds that the original intention of the city authorities was to substitute a steel draw span for the present wooden one, leaving the width of the two channels, 59 feet each, unchanged. According to the letter of the engineer of the Division of Bridges and Ferries, the War Department agreed with this plan of the City Engineer, and the Mayor thereafter requested and procured from the City Council an appropriation of \$125,000 to carry the plan into effect. Then, apparently owing to the desire of wharf owners on Chelsea creek above the bridge for a wider draw and the fact that the Boston Elevated Railway Company agreed to pay a portion of the cost of reconstructing the bridge, the city authorities agreed to a plan whereby the channels would be widened to 70 feet. On account of the contribution of the Elevated Railway Company it was not necessary to increase the appropriation. If, however, the city applied the contri-

bution to the cost of the repairs originally planned, with channels 59 feet wide, the cost would have been considerably less than under the later plan.

It now appears, though no formal announcement has been made, that the War Department which, according to the letter of the engineer of the Division of Bridges and Ferries, previously referred to, approved of a draw with two 59-foot channels, may not approve of a draw less than 100 feet wide. The city authorities seem to have abandoned the plan for a 70-foot draw and to have acquiesced in the plan for a 100-foot draw, and the Mayor, on April 14, 1911, submitted to the City Council a loan order for \$63,000 to provide for the changes made necessary by the adoption of the plan for a wider draw bridge. This loan order, unless rejected within sixty days by the City Council, becomes operative without further action.

The engineer of the Finance Commission has interviewed officials in the office of the War Department Engineers in Boston, and has learned that no formal hearing has been given on the question of increasing the width of the draw beyond its present width of 59 feet. In his opinion a draw with two 70-foot openings would be ample for all the demands of navigation during the life of the proposed temporary bridge, which is estimated to be from ten to fifteen years. The proposed plan for one opening 100 feet wide is in some respects inferior to the plan for a draw with two openings, each 70 feet wide. The widest draw-bridge span in the City of Boston is now 75 feet; the next widest span is 60 feet. (See page 67, Street Department Report of the year 1909.)

If the Mayor and the City Council request a hearing before the United States Engineers at Boston, it will undoubtedly be granted, and the respective merits of the various plans can then be discussed. If the Mayor should decline to join with the City Council in requesting such a hearing, the City Council could

make the request itself, and the United States Engineers would probably, as a matter of courtesy, grant the hearing. Nothing would be lost by such application and \$63,000 might be saved without detriment to the shipping interests involved or to the commercial interests of the city as a whole. So far no one has made a convincing statement of the necessity of the more expensive plan; and if the City Council desires to know exactly what the reasons are for the increased appropriation, there would seem to be no better way of ascertaining definitely than through the medium of a formal hearing by the United States Engineers. The Finance Commission recommends that unless such hearing can be had within sixty days from April 14, 1911, the loan order aforesaid be rejected.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

CITY OF BOSTON,
OFFICE OF THE MAYOR, April 14, 1911.

To the City Council:

For the reasons set forth in the accompanying communications from the Commissioner of Public Works and the Division Engineer of the Bridge and Ferry Division, it seems to me urgently necessary that the appropriation for the reconstruction of the Meridian Street Bridge should be increased by the sum of sixty-three thousand dollars (\$63,000), which is the amount needed, according to the estimates made by the city engineers, for the widening of the draw to a width of 100 feet. I recommend, therefore, the passage of the appended order, which provides this additional sum.

Respectfully,

JOHN F. FITZGERALD, *Mayor*.

CITY OF BOSTON, PUBLIC WORKS DEPARTMENT,
CITY HALL, April 14, 1911.

To the Honorable the Mayor:

In connection with the Meridian Street Bridge reconstruction, kindly note attached report of Division Engineer Fay upon the matter.

Inasmuch as the United States engineer insists on a channel 100 feet in width and will not approve the reconstruction of the bridge with the channel of less width, I would suggest that you recommend the Honorable City Council to provide an increase of \$63,000 to the present appropriation in order to comply with the decision of Colonel Abbot.

Respectfully,

L. K. ROURKE,
Commissioner of Public Works.

CITY OF BOSTON, PUBLIC WORKS DEPARTMENT,
BRIDGE AND FERRY DIVISION, April 14, 1911.

MR. L. K. ROURKE,

Commissioner of Public Works:

DEAR SIR,— On the occasion of the visit of his Honor the Mayor and City Engineer Jackson to Washington in June, 1910, an understanding was reached between the city authorities and the War Department by which the latter would agree to the city's plan for repairing Meridian Street Bridge by the construction of a new steel draw span in place of the existing wooden draw span and by making necessary repairs to the pile structure, leaving the two waterways at their present width, namely, 59 feet each. It was upon this plan that an appropriation of \$125,000 for repairs to this bridge was made available last summer. In compliance with the requests of wharf owners on Chelsea creek above the bridge for a wider channelway, the city later agreed to the widening of each channel by 11 feet, and plans were prepared and bids received on February 28, 1911, for the reconstruction of the bridge with channels 70 feet

wide. An understanding having been reached between the Superintendent of Streets and officials of the Boston Elevated Railway company, by which that company would share in the expense of the work, owing to provision being made on the bridge for its heavy cars, it was possible to provide in the reconstruction for wider channels at extra expense without increasing the city's appropriation.

Since the conference between the city officials and those of the War Department last June the situation has changed, owing to the fact that Congress has made an appropriation for the survey of Chelsea creek with a view to dredging that waterway to a depth of 30 feet. It is practically certain that upon the completion of the surveys this fall Congress will at its next session authorize an appropriation for this dredging, and when the work is carried out that channel will be available for the largest steamers now entering Boston Harbor. In view of this improvement of Chelsea creek a channel-way through the bridge wider than 70 feet seems necessary to properly provide for navigation purposes, and the United States engineer officer in Boston, Col. Frederic V. Abbot, insists upon the need of a channel at least 100 feet in width and will not approve the reconstruction of the bridge with a channel of less width.

Inasmuch as it is necessary to secure the approval of the War Department for any work that can be done, and as the Secretary of War is likely to be guided in his decision by the recommendations of his local officer in Boston, the city will undoubtedly be forced to accept this decision. At present the draw span of this bridge is in such a dilapidated condition that it is unsafe for street car travel and may at times become unsafe for travel of any kind and something should be done at once.

The bridge can be reconstructed with a single channel 100 feet in width, provided the present appropriation be increased by the sum of sixty-three thousand dollars (\$63,000).

As the projected improvement of Chelsea creek will add to the taxable valuation of East Boston, and as the bridge as thus reconstructed will provide all facilities needed for navigation for years to come, thereby postponing for some years the building of a permanent bridge on this location, it is recommended that this additional appropriation be made.

Respectfully,

FREDERIC H. FAY,
Division Engineer.

Ordered, That the sum of sixty-three thousand dollars (\$63,000) be hereby appropriated, to be expended by the Commissioner of Public Works in the reconstruction of the Meridian Street Bridge, and that to meet the said appropriation the City Treasurer be authorized to issue from time to time, on the request of the Mayor, bonds or certificates of indebtedness of the city to said amount.

COMMUNICATION TO THE CITY COUNCIL IN
RELATION TO THE COMPARATIVE COST
OF MINORS' LICENSES ISSUED BY THE
SCHOOL COMMITTEE AND THE CITY
COUNCIL.

Boston, June 5, 1911.

To the Honorable the City Council:

GENTLEMEN,—In reply to your request, dated May 3, 1911, the Finance Commission respectfully submits the following report on the comparative cost of issuing and regulating minors' licenses by the School Committee, through the Supervisor of Licensed Minors attached to the office of the Superintendent of Schools, and by the City Council, through the Superintendent of Licensed Minors attached to the office of the City Clerk.

Up to about one year ago the total cost to the School Committee of performing this work, as well as the cost per license, was much less than the cost of similar service then performed through the office of the Clerk of Committees of the City Council. Thus, the average cost to the School Committee for issuing about 2,500 licenses was about \$2,100 a year, and the cost to the Clerk of Committees Department for issuing about 2,000 licenses was about \$6,000 a year. Several changes, affecting the cost in both these departments, have taken place in the past year.

Since the office of Clerk of Committees was abolished by the Charter Amendments of 1909 (chapter 486, section 1) the work has been done by the City Council with the aid of the Superintendent of Licensed Minors, who, as already stated, is attached to the office of the City Clerk, and of other employees of the City Clerk's office. Two employees of the Clerk of Committees Department, who formerly assisted in this work and

whose annual salaries aggregated \$2,400, have been transferred to the Street Laying-Out Department and given other duties, and the salary of the superintendent has been reduced from \$2,000 to \$1,500 a year, thus reducing the total cost of the work \$2,900 a year. The cost per license has been correspondingly reduced.

Meanwhile the total cost to the School Committee has remained substantially the same, as, unlike the Clerk of Committees, the School Committee had no superfluous employees to eliminate, nor any unnecessarily high salaries to reduce. The cost per license has increased, however, owing to the changes the School Committee has made in the system of issuing the licenses. Thus, the licenses which were formerly issued annually are now issued for a period which ends when the minor attains the age of fourteen years, and consequently the term of the license has increased from one year to an average of about three years. This change operates in two ways to increase the per license cost to the School Committee. It reduces the total number of licenses issued annually, thereby increasing the gross cost per license as the total expense of the work remains substantially the same as when a larger number of licenses were issued. It also increases the net cost of the work, as the School Committee bought and still buys licensed minors' badges for $8\frac{1}{2}$ cents apiece and charges 25 cents apiece for them, and the profits have been diminished in proportion to the reduction in the total number of licenses issued each year.

It should be noted that the increased cost per license issued through the School Committee is a bookkeeping increase merely, and that there has been no substantial increase in the total expense of the work, nor any diminution in efficiency as the result of issuing longer term licenses. On the contrary, the change has relieved the schoolmasters of much useless routine work that was performed under the old system without reducing the amount of supervision exercised over the licensed

minors. On the other hand, the supervision exercised by the Superintendent of Licensed Minors attached to the City Clerk Department has been in some degree diminished by the elimination of the two employees who, as already stated, have been transferred to the Street Laying-Out Department.

The commission has made the foregoing explanation in order that the City Council may know the reasons for the present greater cost per license to the School Committee than the cost when it issued the licenses annually, as well as the cause of the present greater cost to the School Committee than the present cost of issuing licenses through the City Council.

The comparative costs at the present time are as follows:

	City Council.	School Committee.
Salary of superintendent or supervisor.....	\$1,500 00	\$1,400 00
Clerical and office assistants	205 00	625 00
Printing.	48 00	12 00
Postage.	4 00	42 00
Car tickets.		42 50
Other supplies.....	22 00	4 00
Telephone.....		30 00
		\$2,145 50
Less profit on 850 badges.		141 66
Totals	\$1,779 00	\$2,003 84

These figures represent the approximate, not the actual, costs, as all the items of expense cannot be ascertained with absolute accuracy. For example, in the issue of these licenses the full time of a clerk is not required either by the City Council or by the School Committee, and the proportion of clerical assistance is therefore given in each case only as an estimate. So, also, such stationery and supplies as are needed in connection with the licenses are taken from the general

supplies of the School and City Clerk Departments, and there is no means of determining their exact cost to each department. Nor is there any satisfactory means of apportioning, and therefore of comparing, rent, light and heat charges.

The School Committee will pay approximately between \$100 and \$125 annually for the expenses of the Newsboys' Court, which was established last fall. The City Council has no corresponding expense, and consequently no corresponding assistance in controlling its licensees.

As previously stated, the School Committee pays $8\frac{1}{2}$ cents for badges and charges 25 cents, but the badges used in connection with licenses issued by the City Council cost 25 cents and are sold for the same sum, though the latter badge is not so good for the required purpose as the former. There is no apparent reason why the city should continue to waste $16\frac{1}{2}$ cents on each badge given with licenses issued by the City Council.

The commission has confined itself in this report to the question of comparative costs and the reasons therefor, as the request of the City Council is limited to this particular question, and as there is no inquiry relating to the present efficiency of the two departments with respect to the supervision of minors who receive licenses.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

COMMUNICATION TO THE MAYOR IN RELATION TO THE TAXATION OF THE FIRM OF J. B. MOORS & COMPANY.

Boston, June 24, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,—The Finance Commission has received Your Honor's letter of June 7, 1911, inclosing a communication from Frank A. Goodwin, dated June 5, 1911, and another from Charles E. Folsom, secretary of the Board of Assessors, dated June 6, 1911, all said communications relating to the taxation of the firm of J. B. Moors & Company in the years 1909 and 1910.

The question raised by the letter of Mr. Goodwin is whether the returns of personal property subject to taxation by the City of Boston which were filed by the firm of J. B. Moors & Company in 1909 and 1910, for \$98,200 and \$115,800, respectively, were inconsistent with the inventory filed by the executors of the estate of Joseph B. Moors with the Tax Commissioner of the Commonwealth, in which the interest of the estate of Joseph B. Moors in the firm of J. B. Moors & Company was valued at \$475,000; that is, whether the difference between the amounts in the statements filed with the Boston assessors and the Tax Commissioner, respectively, indicates that the firm failed to disclose some of its taxable property in the returns to the assessors or undervalued the property therein disclosed.

The Finance Commission has examined the inventory filed with the Tax Commissioner, the inventory filed with the Probate Court and the will of Joseph B. Moors. It has not examined the sworn returns filed with the Board of Assessors by the firm of J. B. Moors & Company, as, under the law, the assessors are not permitted to disclose the details of such returns.

(Revised Laws, chapter 12, section 44; Acts of 1909, chapter 490, part 1, section 44.)

It has also examined Frank A. Goodwin, Assessors Charles E. Folsom and Frederick H. Temple, the members of the firm of J. B. Moors & Company and John F. Moors.

The material facts seem to be as follows:

Joseph B. Moors was the head of the firm of J. B. Moors & Company, a partnership consisting of himself and his sons Francis J. Moors and Arthur W. Moors.

John F. Moors has never been a member of the firm of J. B. Moors & Company, and had nothing whatever to do with the preparation or the filing of the firm's returns to the assessors.

Joseph B. Moors died on April 30, 1909, leaving a will in which his three sons, Francis J., Arthur W. and John F. Moors, were named as executors. The executors on July 7, 1909, filed with the Tax Commissioner of the Commonwealth an inventory in which, as above stated, the interest of Joseph B. Moors in the firm of J. B. Moors & Company was valued at \$475,000. Under the agreement of the partners, dated January 1, 1909, as well as by the terms of the will of Joseph B. Moors, the firm is to continue until December 31, 1918, and the interest of the deceased partner is to remain in the firm until said date, the firm having the right in the meantime to continue the use of the capital of the deceased member.

The interest of Joseph B. Moors in the firm of J. B. Moors & Company was a certain proportionate part of the firm's business and property, which consisted not only of personal property subject to taxation in the City of Boston but also of real estate, real estate mortgages which were taxable not to the firm but to the mortgagors and certain personal property such as Massachusetts corporation stocks which are exempt from local taxation.

The sworn returns of the firm of J. B. Moors & Company to the assessors were for an entirely different purpose from that of the returns of the executors to the

Tax Commissioner. The returns to the Tax Commissioner were for the purpose of assessing the inheritance tax which is based on all the property of the deceased whether or not taxable for local purposes. The returns of the firm to the Boston assessors were for the purpose of local taxation and were confined to personal property subject to local taxation. The returns to the assessors did not, and were not by law required to, cover all the assets of the firm, such as real estate, mortgages, Massachusetts corporation stock and other assets which are exempt by law from local taxation. The difference, therefore, between the amounts of the returns by the firm to the assessors and the value of the interest of one partner in the firm as shown in the inventory filed with the Tax Commissioner does not, in the opinion of the commission, tend to show, or even to furnish a reasonable suspicion, that the sworn returns by the firm omitted taxable property or undervalued the property subject to taxation therein disclosed.

The members of the firm of J. B. Moors & Company showed to the Finance Commission a list of the property held by the firm, which included the \$475,000 interest in the firm held by the estate of Joseph B. Moors. It appears that over \$300,000 of the firm's property consisted of real estate mortgages. These mortgages were not held as collateral security but were owned by the firm and the taxes were in fact assessed to and paid by the mortgagors. In addition to these mortgages the balance of the firm's capital was made up of real estate, of various kinds of property exempt from local taxation, and personal property subject to local taxation to the amount set forth in the returns filed by the firm with the Boston assessors.

The commission finds no evidence whatever which indicates that there was any concealment of property by the firm or any intention to evade taxation. The assessors who had special knowledge of the facts, Mr. Temple and Mr. Folsom, stated to the commission that all questions were fully and freely answered by

the firm when making the returns and that there was nothing in the circumstances that seemed to be in any way suspicious. Mr. Goodwin's testimony before the commission contained no information in addition to that given in the letter which he forwarded to the Mayor. Nothing has been disclosed to the commission by examination of the public records, the testimony of the assessors, the statements of Mr. Goodwin or from any other source which furnishes any justification for doubting the truth of the sworn statements filed with the assessors by the firm or of the statements made by the members of the firm to the Finance Commission.

Although not submitted to the commission by Your Honor, there has appeared in the newspapers a further statement by Mr. Goodwin, as follows:

It may be true that J. B. Moors & Co., a concern engaged in banking, holds real estate mortgages to the amount of \$300,000 and that the rest of its holdings were nontaxable in 1909, except \$98,200. It may also be true that the value of its taxable property, \$98,200, as shown in the sworn statement filed with the assessors, was estimated with the same accuracy as the value of the real estate of the late J. B. Moors in the inventory filed with the Tax Commissioner. The inventory is signed by John F. Moors of the Finance Commission and his two brothers, and in it the real estate of J. B. Moors is valued at \$10,675 for the purpose of determining the inheritance tax. In the same year the real estate of Joseph B. Moors heirs and devisees is valued by the assessors at \$25,500, or two and one-half times as much as its value as appraised in the inventory.

The implication from this statement is that the executors valued the real estate of Joseph B. Moors at \$10,675 for the purpose of determining the inheritance tax, whereas the assessors in the same year valued the real estate at \$25,500, or about two and one-half times as much as the valuation fixed by the executors. If the two valuations had been upon the same real estate there would be ground for criticism; but it is not the

same real estate. The real estate which was valued by the executors at \$10,675 is situated not in Boston but in the city of Newton, as appears in the schedule of real estate in the inventory filed with the Tax Commissioner, whereas the real estate which was assessed by the Boston assessors to "Joseph B. Moors heirs and devisees" is situated in the City of Boston.

Moreover, the real estate assessed in Boston to "Joseph B. Moors heirs and devisees" (171 Beacon street) was not the property of Joseph B. Moors, but was owned by his wife (now widow) Mary B. Moors, who has owned it since its conveyance to her in her own right on November 1, 1867, as appears by the deed which has been shown to the Finance Commission and which is recorded in the Suffolk Registry of Deeds, Lib. 910, fol. 223. There would therefore seem to be no ground for Mr. Goodwin's criticism.

The commission respectfully reports:

1. That there is no inconsistency between the returns made to the Tax Commissioner by the executors of the will of Joseph B. Moors and the returns made to the Boston assessors by the members of the firm of J. B. Moors & Company.

2. That there is no reason to doubt that both the Commonwealth and the city have received all the taxes to which each was legally entitled.

3. That there is nothing in the circumstances of the case which indicates that Francis J. Moors, Arthur W. Moors or John F. Moors, or the Tax Commissioner, or the Boston assessors, failed to perform their full duty in the premises.

Mr. John F. Moors has taken no part in the commission's investigation of this case nor in its report thereon.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

COMMUNICATION TO THE MAYOR AND CITY COUNCIL IN RELATION TO THE REORGANIZATION OF THE CITY CLERK DEPARTMENT.

BOSTON, July 24, 1911.

To the Honorable the Mayor and City Council:

GENTLEMEN,— The Finance Commission respectfully submits the following report upon the City Clerk Department.

The department performs various duties prescribed by statute or ordinance, the principal ones being the attendance upon the City Council and the recording of its proceedings and the filing and recording of mortgages of personal property and other instruments.

The former Finance Commission, under date of July 14, 1908, made a report upon the department, and recommended reorganization on a basis calculated to reduce the expenditures to not exceeding \$40,000 a year. The average annual expenditures for the ten years preceding the year 1908-09 had been \$51,370, but partly as a result of the commission's report the expenditures for the last three years have been reduced to \$46,591.51, \$42,900.22 and \$44,279.77, respectively, or an average of \$44,590.50 a year.

The failure to reduce expenditures to the extent recommended by the former commission is due to the fact that politics has always had and still has a large influence in the affairs of the department, causing an increase in the number and compensation of employees far beyond the actual needs of the service. Though the department is entitled to commendation for abolishing overtime payments and for reducing the total expenditures, it is entitled to little credit for reductions in the pay roll. The pay roll reductions have been few in number and small in amount. They have been made

along the lines of least resistance, only one resignation having been called for by the City Clerk, the other reductions having been due to voluntary resignation or death. Of the five employees of the department who have ceased to be connected with it since the date of the former commission's report, only one was removed; three resigned to get married and one died.

The present Finance Commission caused the department to be re-examined by Gunn, Richards & Co., expert accountants, who have completed their investigation and have filed a report with the Finance Commission under date of December 28, 1910. They recommended changes which would reduce the expenditures of the department to not exceeding \$30,000 a year. The recommendations were based upon a study of the duties of the department and of the work performed by the various employees, as compared with similar work performed by City Clerk Departments in other cities of Massachusetts and by the Registry of Deeds in Suffolk County. As a result of the Finance Commission's examination both of the experts and of their report and of the officials of the department, the commission recommends that the following changes be made, believing that they are both reasonable and practicable.

I. CITY CLERK, ASSISTANT CITY CLERK AND ONE CLERICAL ASSISTANT.

	Present Salary.	Salary Recommended.
City Clerk	\$5,000 00	\$4,000 00
Assistant City Clerk	3,800 00	2,600 00
Clerical assistant.	1,200 00	1,100 00
Totals.....	\$10,000 00	\$7,600 00

The office of City Clerk is an important and dignified one and involves considerable responsibility, but the duties are not arduous and the services would be well compensated by an annual salary of \$4,000.

The salary of the Assistant City Clerk is also in excess of the necessities of the case. Equally valuable services are rendered by the Assistant Registrar of Deeds of Suffolk County for an annual salary of \$2,500. Even under existing political conditions \$2,500 is all that the city should pay. The services of the present Assistant City Clerk are actually worth more, as he is performing the duties of the City Clerk as well as his own, but when normal conditions are restored the salary of the Assistant City Clerk should be reduced to \$2,500 a year.

The \$1,200 salary received by the woman clerk who does typewriting for the City Clerk and Assistant City Clerk and who also files and indexes the city contracts is excessive. The number of city contracts filed and indexed averages only about four a day, and this work, like the other work performed by the clerk in question, is of a simple character. An annual salary of \$1,100, the amount which was paid prior to October 1, 1909, is sufficient. It is more than should be paid if the length of this clerk's service were not taken into account.

The three reductions thus recommended would effect an annual saving of \$2,400, without causing any change in the system established in the office or impairing its efficiency.

II. RECORD CLERK AND ASSISTANT.

	Present Salary.	Salary Recommended.
Record clerk.....	\$2,300 00	\$1,800 00
One woman clerk.....	1,200 00	1,100 00
Totals	\$3,500 00	\$2,900 00

The record clerk has charge of the work of recording and indexing the proceedings of the City Council and receives an annual salary of \$2,300. The woman clerk who assists him makes a current index of the City Council records on cards, and from these the record clerk makes a consolidated index at the end of the year. The

Council meets once a week on an average, and the total number of pages of its proceedings is about 800; therefore, only about three pages a day are indexed. The record clerk and his assistant also do some work in connection with the drawing of jurors, and the assistant has also a few other minor duties. In the opinion of the commission, a full day is not required for the performance of this work, and the compensation which these two clerks receive is much larger than either the amount or the character of the work requires. A salary of \$1,800 would be ample compensation for the record clerk, and a salary of \$1,100 would be sufficient for his assistant. The latter received \$1,100 prior to October 1, 1909, and this amount would give full recognition to the value and length of her service.

These changes would save \$600 a year.

III. REORGANIZATION OF OTHER WORK IN THE DEPARTMENT.

A further saving of \$12,088 a year can be effected as follows:

A. By making reductions in the number and compensation of clerks employed in receiving, indexing and recording instruments and by changing the existing system in certain particulars.

B. By using the mails in collecting fees instead of employing a messenger to collect, and by hiring less expensive messenger service for posting civil service notices and for delivering papers to departments.

A. *Receiving, Indexing and Recording Instruments.*

1. *Receiving and Indexing.*

The experts report that for five years, ending January 31, 1910, an average of 11,552 instruments, comprising mortgages and related instruments, assignments of wages, married women's certificates, liens on vessels, assignments for the benefit of creditors, descriptions of trade utensils, and business certificates, were filed annually in the City Clerk Department, and were

attended to by six clerks whose salaries amounted to \$7,300 a year, the average cost per instrument being about 63 cents. In the Suffolk County Registry of Deeds there were about 47,000 instruments entered and indexed last year, exclusive of the Land Court registrations, and the average cost per instrument was about 15 cents, or less than one-fourth of the cost at the City Clerk Department. In the following table this work and its cost to the two departments are compared:

<i>City Clerk Department.</i>		<i>Suffolk Registry of Deeds.</i>	
No.	Salary.	No.	Salary.
1 Entry clerk.....	\$1,400 00	1 Entry clerk.....	\$1,040 00
1 Index clerk.....	1,800 00	1 Entry clerk.....	936 00
1 Index clerk.....	1,100 00	2 Clerks paging indices, \$780	
1 Index clerk.....	1,000 00	each..	1,560 00
1 Index clerk.....	800 00	2 Clerks paging entry books	
1 Information clerk.....	1,200 00	(part time).....	1,300 00
6	\$7,300 00	3 Index clerks, \$780 each...	2,340 00
Average number of instru-		9	\$7,176 00
ments.....	11,552	Number of instruments	
Average cost per instrument..	63 cents	(1910).....	47,331
		Average cost per instrument,	15.16 cents

The transfer of one clerk to the work of preparing a consolidated index will reduce the cost in the present year from \$7,300 to \$6,300, and the cost per instrument to 55 cents, which, however, will still be three and one-half times as much as the cost at the Registry of Deeds. If this clerk is not retired when the consolidated index is finished, but is permitted to resume her former duties, the cost will again be 63 cents per instrument.

The compensation paid to employees of the Suffolk County Registry of Deeds for the work in question is sufficient in the opinion of the Finance Commission, and there can be no just defence for the continuance of the vastly more expensive system which is maintained at the City Clerk Department.

2. Recording.

The recording of instruments at the City Clerk Department is also excessively costly. The work of copying instruments in the record book, comparing records with the original and making corrections and

marginal references is performed by ten clerks, whose salaries amount to \$11,500 a year.

Nine of the ten are employed in connection with the recording of mortgages and one is employed in connection with the entering or recording of other instruments. Two of the ten employees, one rated as a bookkeeper, the other as a clerk, each receiving \$1,800 a year, are engaged principally in connection with recording, though they have other duties which occupy a comparatively small portion of their time. At the Registry of Deeds the copying is done on a piece work basis and other branches of the work are performed by clerks at regular salaries. The cost of the work is far less at the Registry than at the City Clerk Department, as the salaries which are paid by the latter are higher and none of the business is on a piece work basis. The experts employed by the commission made a study of the cost of recording mortgages and related instruments at the City Clerk Department for the twenty-four weeks from June 17 to December 1, 1910, this period being the one in which the cost has been lowest in recent years, and compared the cost with the estimated cost of doing the same amount of work at the Registry of Deeds. The comparison shows that the cost at the City Clerk Department was about two and three-fourths times as great as the cost would be at the Registry of Deeds.

City Clerk Department.

Copying approximately 5,580 pages:

1 clerk, 24 weeks at \$21.09	\$506 16	
4 clerks, 24 weeks at \$19.17	1,840 32	
	<hr/>	\$2,346 48

Corrections and margins:

1 clerk, 24 weeks at \$19.17	\$460 08	
1 clerk, 24 weeks at \$15.34	368 16	
	<hr/>	828 24

Comparing:

1 clerk, 24 weeks at \$34.52	\$828 48	
1 clerk, 24 weeks at \$19.17	460 08	
	<hr/>	1,288 56

Total	<hr/>	<u>\$4,463 28</u>
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Estimated Cost, Registry of Deeds.

5,580 pages at 20 cents per page	\$1,116 00
Comparing:	
1 clerk, 24 weeks at \$18	432 00
Estimate of bonuses	68 00
Total	<u>\$1,616 00</u>

In the opinion of the commission the maintenance of the present costly system of recording at the City Clerk Department is wholly without justification.

B. Messenger Service.

The four messengers, so called, employed in the City Clerk Department were all appointed outside of civil service prior to the date when messengers were placed under the civil service rules. These appointments, like many others in the department, were of a political character and the compensation is in excess of the actual value of the service rendered. One of the messengers receives \$1,200 a year. He is a custodian of records which are kept in the vault in the basement. His duties are of the simplest character and would be well compensated by a salary of \$900 a year.

Another messenger who receives \$1,200 a year is employed principally in answering inquiries at the door and in the preparation of hunters' licenses, of which there are about four per day on the average.

The latter work could easily be attended to by the Assistant City Clerk or some other employee in the office, and there seems to be no reason why the inquiries could not be answered by the assistant or some other clerk, thus making the position of the messenger in question unnecessary.

The third messenger receives \$1,200 a year and is engaged principally in posting notices issued by the Civil Service Commission, which are required to be posted in each ward of the city, and in delivering the renewals of licenses for the storage and sale of explosives. In the city of Worcester the posting of civil service notices is performed by an outside messenger at a

cost of 25 cents per hour. If outside messenger service were employed for this work in Boston it could be performed for \$200 a year, according to the liberal estimate of the experts employed by the Finance Commission. The other work of the messenger could be dispensed with if the department would notify the licensees that the papers were ready for delivery and could be received upon payment for the same at City Hall. By the adoption of these simple expedients the service of this messenger would become wholly superfluous and \$1,000 a year could be saved.

The fourth messenger is employed principally in carrying papers and other messages from the City Clerk Department to other city departments and in collecting fees for papers which have previously been left to be recorded. There is no reason why persons who leave papers for recording should not be required to call at City Hall and pay for the recording when the amount of the fee has been ascertained, or send payment by mail. That is the practice of the Registry of Deeds and, so far as known, of City Clerk Departments elsewhere. If that practice is established there will be no necessity for retaining the services of this messenger. A boy should be employed in his place at \$6 a week and thus \$688 a year could be saved.

If the following recommendations are adopted, an annual saving of approximately \$15,088 can be effected; and in this event an annual appropriation of \$30,000 will be ample.

The commission recommends:

1. That the ordinances be amended so as to fix the salaries of the City Clerk and Assistant City Clerk at \$4,000 and \$2,500 a year, respectively, and that the salary of the woman clerk who assists the City Clerk and files and indexes city contracts be reduced to \$1,100 a year, thus saving \$2,400 a year.

2. That the salaries of the record clerk and of his assistant be reduced to \$1,800 and \$1,100, respectively, thus saving \$600 a year.

3. That the salary of the clerk who issues notices of hearings on pole locations be reduced from \$1,000 to \$800 a year.

4. That the work of receiving, indexing and recording instruments be reorganized, as outlined below, so as to reduce the cost to approximately the cost at the Registry of Deeds.

(a) The salary of the chief clerk of the mortgage department should be reduced from \$2,000 to \$1,800, which would be a liberal allowance, equal to the salary paid the second Assistant Register of Deeds for work which is similar in kind but much greater in amount.

(b) Index books should be kept where the public could obtain information without being obliged to consult the information clerk or to rely upon the accuracy of the information thus given. The information clerk would thus become unnecessary and \$1,200 a year could be saved.

(c) The salaries of one male clerk and two women clerks, who work on the indices and receive \$1,800, \$1,100 and \$1,000, respectively, should be reduced to \$1,000, \$800 and \$800, respectively, this saving \$1,300 a year.

(d) The salary of the entry clerk should be reduced from \$1,400 to \$1,200, saving \$200 a year.

(e) The recording of mortgages and other related instruments, including the copying, comparing, correcting and making of marginal references, should be placed upon the same basis as at the Registry of Deeds. By establishing the piece work system at the rates paid in the Registry of Deeds, a saving estimated by the experts at \$3,600 a year could be effected.

(f) One clerk, rated as bookkeeper, who now receives \$1,800 a year, and who is principally occupied in comparing papers with an assistant who receives \$1,000 a year, should be retired, and the salary of the assistant reduced \$100, thus

saving \$1,900 a year. The copyists should assist the remaining comparer in the same manner in which the copyists assist the comparers at the Registry of Deeds.

(g) The clerk who is now in charge of the assignments of wages, married women's certificates and liens on vessels, which duties in connection with his other clerical work do not occupy his entire time, should be given the additional duties of keeping the books and answering inquiries now attended to by one of the messengers. His salary should be reduced from \$1,800 to \$1,500 a year.

5. The salary of the messenger who has charge of the vaults should be reduced from \$1,200 to \$900 a year.

The other three messengers should be retired and outside messenger service and extra use of the mails be resorted to as previously outlined, and a messenger boy be employed at \$6 a week. These changes would result in a saving of \$3,188 a year over the present messenger cost.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

COMMUNICATION TO THE MAYOR AND CITY
COUNCIL IN RELATION TO BETTER FIRE
PROTECTION AND THE SUBSTITUTION
OF MOTOR-DRIVEN FOR HORSE-DRAWN
APPARATUS.

Boston, August 16, 1911.

To the Honorable the Mayor and City Council:

GENTLEMEN,— The Finance Commission respectfully submits the following report upon the subject of fire protection in the City of Boston.

I. EXISTING CONDITIONS.

The bulk of Boston's large business is conducted in a section of the city where the fire hazard is very large. The streets in the business district are so narrow as to be of little value as barriers against fire, and many of the buildings are old, with little or no fireproof material in their construction, and without proper facilities for access by the Fire Department. Fires in this district are almost invariably attended with serious losses. A conflagration would be certain to cause tremendous financial loss, and might cause a temporary paralysis of business during which the entire community would suffer.

In many residential sections of the city entire streets present a solid front of dwellings made of what has been properly styled "tinder box" construction. Dorchester is the most conspicuous example, but similar conditions are found in the other residential sections. There are exceptional fire hazards in East Boston and Charlestown, due partly to dwelling houses of this type, partly to the presence of factories, lumber yards, railroad sheds and wharves, and partly to the fact that apparatus sent from other parts of the city to give relief

may be delayed on the bridges or ferries over which most of the assistance to the local fire companies must come.

The large area outside of "the building limits" in Boston, that is, outside the limits within which the erection of wooden buildings is prohibited by law, adds greatly to the fire risk. Figures submitted by the Fire Commissioner show that in the seven cities of the United States which have the largest population the percentage of the area of the building limits to the total city area is the lowest in Boston. The area within the building limits in Pittsburgh is over one-fifth of the total area, in Chicago it is over one-fourth, in Baltimore nearly one-half, in St. Louis and Philadelphia over one-half, and in New York practically the whole area is included within the building limits. In Boston, however, less than one-tenth of the total area is within the building limits. All things considered, Boston's fire risk is one of the heaviest in the large cities of the United States.

The Fire Department is entirely capable of handling ordinary fires. It has sufficient apparatus of its kind, and it is kept in good condition. It is generally admitted that the firemen are well equipped physically and mentally and that the officers are experienced and able. The Fire Commissioner is conducting the affairs of the department intelligently and faithfully.

The department, however, is not as well equipped as it should be for dealing with extraordinary fires. Any such fire, under existing circumstances and with unfavorable weather conditions, might result in a disastrous conflagration. In order to deal promptly and effectively with the larger and more dangerous fires the department should have in every company a sufficient quota of men available for immediate duty and an adequate equipment of the best modern fire apparatus. In these two essentials the department is lacking and to this is due largely the lack of sufficient protection against fire in Boston.

II. RECOGNIZED NEED OF BETTER PROTECTION.

That Boston needs better fire protection is not a new discovery; it has been known for a long time by the city authorities, by insurance officials and by the citizens generally. A year ago the Mayor, vividly impressed with the lessons of the Albany street fire, called the attention of the Chamber of Commerce and of the Finance Commission to the lack of sufficient fire protection, and invited these bodies to investigate and report on several phases of the situation; at about the same time he also appointed a special commission to study the defects in the building laws, with the intention of submitting a bill, remedying such defects, to the incoming Legislature; and these various bodies made the requested investigations and reports.

The Fire Commissioner and the local and national boards of fire underwriters fully recognized the need of better protection against fire, and made certain definite recommendations for improvement. The citizens generally recognized the need of decreasing the fire hazard and of increasing the efficiency of the Fire Department; and their views were reflected in the columns of the newspapers, which appreciated the existing dangers and joined in the general demand for their abatement.

One of the greatest needs, according to the underwriters, the Fire Commissioner and all persons familiar with conditions in the Fire Department, was the appointment of additional firemen. The Fire Commissioner on April 11, 1911, wrote to the Mayor requesting an appropriation of \$75,000 to cover the salaries and expenditures of additional firemen. In this letter the commissioner quoted a report of the National Board of Fire Underwriters on the Fire Department of the City of Boston, as follows:

"The fire force, while nominally strong, is seriously weakened by the allowance of time off under the present arrangements; even companies in the most important

districts are often reduced to four or five men in quarters during eleven out of twenty-four hours. At such times companies responding to fires must assist one another with a loss of valuable time at the most critical stage. This is the most serious deficiency of any pertaining to the department and demands immediate attention. The number of men in each company should be increased, or at least provision made for relief men to take the places of all members on vacation, sick and special leave or details and in some cases for those on days off."

"Members are allowed two meal periods of two hours or three of one and one-quarter hours daily, one day off in five and fourteen days' annual vacation. These with the details, sick leaves, etc., reduce the fire force during eleven and one-half hours each day to about one-half and in many instances less than one-half of the total membership."

The Fire Commissioner also shows in the same letter that in vacation months, May to November, engine and ladder companies requiring thirteen and fourteen men sometimes have only five; companies requiring nine or twelve men sometimes have only four; and companies requiring seven and eight sometimes have only three men. (See Minutes of City Council, 1911, pages 271, 272.)

The Finance Commission, on March 22, 1911, recommended the appointment of fifty additional firemen, the number which the Fire Commissioner then estimated to be absolutely necessary; and since that time practically nothing has occurred to lessen the necessity for the recommended increase in the force.

III. FAILURE TO IMPROVE CONDITIONS.

Notwithstanding the recognized need for improvement and the various recommendations made as a result of the investigations requested by the Mayor, practically nothing has been accomplished in the last year except the authorization of a high pressure water service,

which is to be installed in the business district. When this service is completed it will greatly strengthen the city's fire-fighting facilities, but it does not help the present situation in the slightest degree. The legislature defeated the attempt to strengthen the building laws, the department force has not been increased as requested, and the situation is practically the same as it was a year ago, when the Mayor called public attention to the pressing need of greater protection against fire.

IV. THE CAUSE OF THE SHORTAGE OF FIREMEN.

Though the failure to increase the number of firemen in the past year was due to the non-action of the present Mayor and City Council, the primary cause of the shortage was due to the action of previous city governments. As pointed out in the report of the National Board of Fire Underwriters, the allowances for time off and for meal hours have greatly weakened the department force. Prior to December, 1905, such allowances were governed by the department regulations and were controlled by the head of the department; but in that year control of the allowances for time off, and in 1909 control of the allowances for meal hours, was taken away from the Fire Commissioner and both matters were regulated by ordinance.

Politics was the moving cause of both these transfers of the Fire Commissioner's power to regulate the hours of labor in his department and of the resulting shortage of firemen available for duty. Thus, as a result of the bidding for firemen's votes by rival candidates for the Democratic nomination for Mayor in the fall of 1905, the firemen were given by ordinance one day off in five, instead of one day off in eight as previously given under the regulations of the department. (See Ordinances of 1905, chapter 4.) This action was taken against the Fire Commissioner's protest that the force would be reduced below the actual needs of the service. Likewise, in the desire to secure the political support of the

firemen, the 1909 ordinance was passed, requiring that the members should be allowed for meals each day "either three periods of one hour and fifteen minutes each or two periods of two hours each." This ordinance superseded the department's regulation giving the members an hour for each of three meals a day. (Ordinances of 1909, chapter 11.) This second instance of mischievous meddling with the internal affairs of the department was opposed by the Fire Commissioner, as shown by the following letter:

HEADQUARTERS FIRE DEPARTMENT,
BOSTON, December 26, 1908.

JOHN T. PRIEST, Esq., *City Clerk,*
City Hall, Boston:

DEAR SIR,—In reply to your letter of December 22, stating that the Board of Aldermen requests my opinion in regard to the inclosed ordinance, I am opposed to such an ordinance which I believe would impair the efficiency of this department and, in my opinion, is not essential to the welfare of the men.

Yours very truly,

S. D. PARKER,
Commissioner.

The ordinance was vetoed by Mayor Hibbard, but was passed by the City Council over his veto.

V. REMEDIES FOR EXISTING DEFECTS.

1. There is urgent need for amending the building laws and for extending the area of the present building limits, and an effort should be made to procure suitable legislation in these particulars.

2. There is an obvious need of increasing the fire-fighting facilities of the department, so as to get more men and more apparatus more quickly to a fire than is at present possible. In fire fighting, as in war, success often turns upon getting the largest force in the quickest time to a given point. The Finance Commission believes that the appointment of fifty additional firemen would

afford some relief for the present situation; but it thinks this is not all that is required. Means must be provided which will enable the men to get to the fire quicker than is possible with horse-drawn apparatus, such as is now used in the department. At the request of the Finance Commission the Fire Commissioner has made a study of the relative cost and efficiency of horse-drawn and motor apparatus, and has submitted a report with his recommendations, a copy of which is hereto annexed. He recommends that the department be authorized to expend \$200,000 for the purchase of the following motor apparatus:

First.—Fifteen automobile runabouts to replace fifteen horses and fifteen buggies now used by the district chiefs, the superintendent of repairs and the superintendent of the fire-alarm branch.

Second.—Three automobile combination wagons to replace six horses, one wrecking wagon and the two supply wagons of the fire-alarm branch and the repair division.

Third.—Ten automobile chemical hose wagons to replace twenty horses and ten chemical engines.

Fourth.—Thirteen automobile chemical hose wagons (of sufficient capacity to "service" the high pressure system in future years if necessary) to replace twenty-six horses and thirteen ordinary hose wagons.

Fifth.—Four automobile ladder trucks to replace twelve horses and four out-of-town ladder trucks.

Sixth.—Two automobile ladder trucks to replace four horses and two chemical engines.

The amount recommended by the Fire Commissioner (\$200,000) is about \$34,000 more than his present estimate of the cost of the new motor apparatus minus the amount which would be received in exchange for the old equipment; but he believes that it would be better to make an appropriation of \$200,000, so as to leave sufficient margin for differences between his estimates and prices that might be offered and also for changes in or additions to his plans. As the estimated net cost is

\$166,035, the Finance Commission, however, believes that if \$175,000 be appropriated a sufficient margin will be afforded.

The plan would involve a large capital expenditure which could be justified only by a large increase in the efficiency of the department. The Fire Commissioner believes the expenditure would be justified by the large gains in efficiency. These gains he sets forth as follows:

First.—The speed of horses responding to an alarm is from twelve to fifteen miles an hour under the best conditions. The automobile will cover more than twice this distance in the same time if necessary.

Second.—It can cover a long distance with the same speed as short ones. This is impossible with horses.

Third.—It is back in quarters quicker than horses and ready to respond to another alarm.

Fourth.—The services of the driver of an automobile are available, which is not so with the driver of horses.

The Fire Commissioner does not include in the prospective purchase of motor apparatus gasoline pumping engines, motor water towers or heavy motor ladder trucks, but confines his recommendations to such apparatus as seems to him clearly to have passed the experimental stage and to have demonstrated its utility in actual service. He is also certain that his plans can be executed without difficulty in regard to the housing and repair of the new apparatus or the storage of gasoline, the department's resources being sufficient in his opinion to provide for these details; and he expects no difficulty in training the present drivers of horses to run the automobile apparatus.

The saving in maintenance resulting from the substitution of motor for horse-drawn apparatus would be at least as much as the Fire Commissioner estimated in his report to the Finance Commission dated August 8, 1911, namely, at the rate of \$50 for one-horse apparatus and \$100 for two-horse apparatus, and probably would be more, as the Fire Commissioner's estimate

does not include the cost of repairs of horse-drawn apparatus. Against the saving in maintenance, however, there should be set off the larger capital charges of motor apparatus, distributed over the years of the life of such apparatus, as it costs considerably more than horse-drawn apparatus. If motor apparatus were to be substituted for new horse-drawn apparatus, the total annual increase in expenses would not, in the opinion of the Finance Commission, exceed \$20,000, and probably would not exceed \$15,000; but the horse-drawn apparatus is not new, and much of it would soon have to be replaced at all events, therefore the above estimates of increased expenditures should be somewhat reduced. Assuming, however, that the increase may be as high as \$20,000 a year, the Finance Commission believes it would be entirely justified by results. The department could utilize for service at fires the forty-seven drivers of the new motor apparatus, whereas the service at fires of the drivers of horse-drawn apparatus is forbidden by the department rule requiring such drivers to stand by their horses, and is in fact seldom utilized. This additional service alone would seem to justify the proposed increase in expenses; but when the greatly increased efficiency of the department as a whole is considered, the Finance Commission thinks there can be no doubt whatever of the wisdom of the proposed change.

3. The Fire Commissioner should have greater control over his department than he has at present. He should not be hampered either by the political activity of the firemen's organization, exercised either in the Legislature, in the City Council or with the Mayor, or by the inelasticity of such ordinances as regulate the time off or the meal hours of the firemen. These ordinances should be repealed so as to restore his authority to regulate the internal affairs of his own department.

The Finance Commission recommends:

1. A renewal of the efforts to secure legislation amending the building laws and extending the building limits.

2. That the Mayor and City Auditor, acting under section 3 of chapter 486 of the Acts of 1909, transfer from the Reserve Fund to the appropriation for the Fire Department the sum of \$193,000, to be used for the following purposes, viz.: \$18,000 for the salaries for the remainder of the present fiscal year of fifty additional firemen, and \$175,000 for the purchase of the motor apparatus recommended by the Fire Commissioner; or that the Mayor and City Council appropriate from the Reserve Fund, or from taxes, the sum of \$193,000 for the said purposes. It has been customary to provide fire apparatus out of taxes instead of by loans, and the established practice should be followed in this instance. The fact that the apparatus is of the motor instead of the horse-drawn kind furnishes no reason for changing the established financial policy in this respect.

3. Chapter 4 of the Ordinances of 1905 and chapter 11 of the Ordinances of 1909, which regulate the time off and meal hours, respectively, of the firemen, should be repealed.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

APPENDIX.

REPORT OF THE FIRE COMMISSIONER TO THE FINANCE COMMISSION.

CITY OF BOSTON, HEADQUARTERS FIRE DEPARTMENT,
BRISTOL STREET, BOSTON, August 8, 1911.

RE MOTOR APPARATUS.

Finance Commission, Tremont Building, Boston, Mass.:

GENTLEMEN,— This department has made a careful study of changing its horse-drawn apparatus to that of motor-driven type. The present equipment of the Boston Fire Department has proven up to date an effi-

cient fire stop for both downtown and out-of-town fires. Any replacement of this apparatus necessitates changing from sure protection to untried apparatus whose efficiency under trying conditions may prove problematic. When it is considered that the value of the property protected is \$1,400,000,000 and the number of people served is approximately 1,000,000, the seriousness of any change from present satisfactory conditions can be fully realized. No large city has as yet adopted any material amount of motor apparatus. Small cities, where the conflagration risk is neglected and economy is the essential item, are its chief exponents. It has therefore been considered wise to recommend only such motor apparatus as has been tried and proven efficient under all conditions. After a complete investigation the following is recommended:

RECOMMENDATIONS.

It is recommended that \$200,000 be expended by this department for motor apparatus. If this sum is considered excessive the first three subsidiary recommendations involving the sum of \$100,000 should be adopted. It is suggested that this sum might properly be transferred from the reserve.

The recommendations are:

First.— The replacement of all district chiefs' buggies and the buggies of the superintendent of repairs and the superintendent of fire alarm by automobile runabouts. This involves fifteen horses and buggies.

Second.— The replacement of the present two-horse wrecking wagon and the two two-horse supply wagons of the fire-alarm branch and the repair division by automobile combination wagons which will be duplicates of the chemical hose wagons and will constitute reliefs for the same. This will involve three wagons and six horses.

Third.— The replacement of the entire chemical engine equipment by automobile chemical hose wagons. This involves ten chemical engines and twenty horses.

Fourth.—The replacement of thirteen ordinary hose wagons by automobile chemical hose wagons of sufficient capacity to service the high pressure system in future years if necessary. This involves thirteen wagons and twenty-six horses.

Fifth.—The replacement of four out-of-town ladder trucks by the same number of automobile ladder trucks. This involves four ladder trucks and twelve horses.

Sixth.—The replacement of two chemical engines by automobile ladder trucks. This involves two chemical engines and four horses.

Cost of Exchange.

This entire replacement involves the sale of 83 horses, 83 harnesses, 12 chemical engines, 15 buggies, 16 wagons and 4 ladder trucks. Computed at the following prices, which could no doubt be obtained in exchange for new apparatus, the following amount would be received:

Horses, 83 at \$150	\$12,450 00
Chemical engines, 12 at \$500	6,000 00
Wagons, 16 at \$100	1,600 00
Buggies, 15 at \$50	750 00
Harnesses, 83 at \$5	415 00
Ladder trucks, 4 at \$500	2,000 00
	<hr/>
	<u>\$23,215 00</u>

The necessary equipment to replace this apparatus would cost:

Combination hose wagons, 26 at \$5,000	\$130,000 00
Ladder trucks, 6 at \$5,500	33,000 00
Runabouts, 15 at \$1,750	26,250 00
	<hr/>
	\$189,250 00
	<hr/>
	23,215 00
	<hr/>
	<u>\$166,035 00</u>

In order that the purchasing authority may have proper leeway for changes in plans, additions thereto and changes in prices, it would seem best to recommend that \$200,000 be made available for the carrying out of these recommendations.

DIFFERENCE IN MAINTENANCE EXPENDITURES.

To maintain one horse one year in the Boston Fire Department costs \$250. This figure has been obtained by taking the approximate average expenditure for the maintenance of horses for the last five years. These expenditures are made up of bills for the following: Hay, grain, straw, shoeing, purchase and exchange of horses, harnesses and repairs, horse hire, attendants at hospital, medicines, etc.

There is considerable difficulty in estimating what would be the maintenance costs of motor equipment in this department. The maintenance costs of smaller cities and towns, in my opinion, are not reliable. They are based on smaller service mileage such as is not comparable with the work in Boston. Moreover, the manufacturers of motor apparatus make many important repairs without cost at this time. It is reasonable to expect that later these repairs will not be free and will be more numerous.

The cost of Motor Chemical 13 of this department for one year has been \$338. This includes an expenditure of \$100 for spare tires.

In my opinion the maintenance expenditures of motor chemical apparatus would not exceed \$500, or the maintenance expenditure for horse-drawn apparatus. It is possible that the charges would be somewhat less than \$500, but considering the increase in repairs as the car depreciates, the heavy cost of repairs resulting from accidents, and the high cost of maintenance of pleasure cars, and the uncertainty with respect to depreciation, I do not feel that it would be safe to estimate any material and sure saving in maintenance over horse-drawn apparatus. At the same time motor apparatus could unquestionably be maintained for not more than \$500 per piece and there would probably be some saving.

It is not out of the question that this saving would amount to not less than \$50 per horse, or \$100 per

team. In the case of the larger plan this would amount to \$4,150 per year, or the interest on about \$104,000 at 4 per cent. In the case of the smaller plan a saving of \$100 per team would amount to \$2,250 per year, or the interest on about \$56,000.

It is apparent that the services of drivers who are paid \$1,200 per year would be available with motor apparatus.

GAIN IN EFFICIENCY.

First.—The speed of horses responding to an alarm is from twelve to fifteen miles an hour under the best conditions. The automobile will cover more than twice this distance in the same time if necessary.

Second.—It can cover a long distance with the same speed as short ones. This is impossible with horses.

Third.—It is back in quarters quicker than horses and ready to respond to another alarm.

Fourth.—The services of the driver of an automobile are available, which is not so with the driver of horses.

Dorchester, with its large area of wooden buildings, and West Roxbury, rapidly building up in the same manner, needs just such fire service as automobile chemical hose wagons can give. Their speed will enable them in the case of single fires to reach the fire quicker and extinguish it in its incipency. In the case of larger fires they will be enabled to cover long distances at great speed, which will be necessary when flying sparks travel from roof to roof.

APPLICATION OF THE NEW EQUIPMENT.

The plans of this department contemplate the installation of motor apparatus in the following houses:

First.—Ten chemical engine companies.

Second.—Fifteen chief's buggies.

Third.—Three administration wagons.

Fourth.—Six out-of-town ladder trucks, to wit, Ladders 27, 25, 16 and 6, and ladder trucks in place of Chemical Engines 5 and 6.

Fifth.— The installation of automobile hose tenders in the quarters of Engines 16, 17, 18, 19, 20, 28, 29, 30, 34, 37, 41, 45 and 46.

These wagons are to be built of a sufficient capacity to carry 1,000 feet of 3-inch hose, thereby making them available for service as high pressure wagons in the downtown district if so desired in later years.

SMALLER PLAN.

If the sum of \$200,000 is considered beyond the means of the city for the present, I earnestly recommend that so much of the recommendations as involves the change of horse-drawn chief's buggies and chemical engines to motor-driven be adopted. The smaller plan includes the first three recommendations with the exception that there will be twelve chemicals. The figures involved are:

Sale of present equipment:

Horses, 45 at \$150	\$6,750 00
Harnesses, 45 at \$5	225 00
Buggies, 15 at \$50	750 00
Wagons, 3 at \$100	300 00
Chemical engines, 12 at \$500	6,000 00
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	<u>\$14,025 00</u>

Cost of new equipment:

Runabouts, 15 at \$1,750	\$26,250 00
Chemical engines, 15 at \$5,000	75,000 00
	<hr/>
	<u>\$101,250 00</u>

The difference in maintenance, possible saving of \$2,250 per year.

Estimated net sum for smaller plan, \$100,000.

NOT RECOMMENDED.

It has not seemed wise to recommend the purchase of gasoline pumping engines for the following reasons:

First.— It has not yet been proven that the gasoline pumping engine can maintain a capacity of 700 gallons per minute for a material length of time.

Second.— Purchases of these engines up to date have been in the nature of experiments. Boston with its heavy fire risk cannot afford to experiment in any large degree with the most important part of its equipment, the pumping engine.

Third.— No large city has as yet done more than buy an experimental gasoline engine.

Fourth.— It is very questionable as to whether a motor-drawn steam boiler, such as is in service in New York, may not prove a more satisfactory type than the single piece gasoline pumping engine and hose cart.

It is possible that later a gasoline-driven engine may be perfected that will pump with reliability over seven hundred gallons and which will also carry 1,000 feet of hose and ten men. For the present I am of the opinion that there is no such engine. Should it be developed the economies possible will not be lessened by the adoption of these recommendations.

In my opinion the city should not proceed beyond the purchase of a single experimental engine, which could be made from department funds.

On similar grounds no purchase of motor water towers or heavy ladder trucks should be made. Up to date there has been but one motor water tower in existence in this country, and that but a very short time. There are very few heavy motor ladder trucks. Considering the supreme necessity of maintaining the efficiency of these fire-fighting machines, as well as the pumping engines, it seems wise to delay any action with respect to this apparatus for the present.

CONCLUSION.

I desire to call your attention to the fact that this department has recommended only such equipment as has been tried and proven reliable. The proposed increase in efficiency will apply to a great extent to

Dorchester and West Roxbury. These sections of the city will greatly benefit by fast moving chemical wagons. The recommendations have involved a sum of money which might justly be expended from the reserve if it is proposed to maintain the Fire Department of the city on an up-to-date basis.

Very respectfully,

CHARLES D. DALY,
Fire Commissioner.

FURTHER COMMUNICATION TO THE MAYOR IN RELATION TO CONDITIONS IN THE FIRE DEPARTMENT.

BOSTON, August 21, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,—Your communication of August 18, respecting the Finance Commission's recent report upon conditions in the Fire Department, has been received. The commission has noted the various suggestions for delay raised by Your Honor's letter, but believes that delay is not only unnecessary but may be actually dangerous. There is nothing to prevent action being taken at once upon those recommendations of the commission which involve the action of the Mayor and City Council, viz., the appropriation of money for extra firemen and motor fire apparatus, and the repeal of the ordinances which hamper the Fire Commissioner's authority over his department.

Your Honor has called the commission's attention to the fact that the City Auditor has expressed a doubt that the money needed for the purchase of motor apparatus in the Fire Department could be lawfully transferred from the Reserve Fund by the Mayor and City Council under section 3 of the charter amendments; but the commission respectfully calls Your Honor's attention to the fact that in the paragraph containing this recommendation the alternative recommendation is made that the Mayor and City Council appropriate from the Reserve Fund, or from taxes, the sum necessary. This alternative was inserted by the commission in order to meet any possible question which might be raised as to the validity of the transfer by the Mayor and City Auditor under section 3. Whether or not the City Auditor is right in his contention that the proposed transfer could not be made by the Mayor and

City Auditor is for the present unessential, as no question can be raised as to the power of the Mayor and City Council to make the appropriation from taxes or from the Reserve Fund, as the commission also recommended. The entire recommendation of the commission upon this subject is as follows:

That the Mayor and City Auditor, acting under section 3 of chapter 486 of the Acts of 1909, transfer from the Reserve Fund to the appropriation for the Fire Department the sum of \$193,000 to be used for the following purposes, viz.: \$18,000 for the salaries for the remainder of the present fiscal year of fifty additional firemen, and \$175,000 for the purchase of the motor apparatus recommended by the Fire Commissioner; or that the Mayor and City Council appropriate from the Reserve Fund, or from taxes, the sum of \$193,000 for the said purposes. It has been customary to provide fire apparatus out of taxes instead of by loans, and the established practice should be followed in this instance. The fact that the apparatus is of the motor instead of the horse-drawn kind furnishes no reason for changing the established financial policy in this respect.

Nor does the commission feel any apprehension, such as Your Honor evidently entertains, that any serious harm would arise if any unexpended balance of the appropriation should be returned to the city treasury at the close of the present fiscal year. If the money is appropriated in the present fiscal year the contracts can be made in the present year, but if the appropriation is deferred until next year, so also must the making of the contracts be deferred, and hence considerable delay would result. If a balance were returned to the treasury at the end of the present fiscal year and payments for motor apparatus became due in the next fiscal year, the appropriations for the next year would undoubtedly provide money for such payments. It is inconceivable that the city would contract for motor apparatus this year and fail to provide sufficient money next year to complete the contracts. There is no reason, however, why the Mayor and City Council can-

not make a special appropriation so that the unexpended balance at the close of the present fiscal year will remain to the credit of the Fire Department, thus enabling it to spend the balance in the next fiscal year. Moreover, if the appropriation is made at once, and contracts for motor apparatus are promptly entered into, there seems to be no reason why the apparatus cannot be delivered and paid for before the close of the present fiscal year.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

COMMUNICATION TO THE MAYOR AND CITY
COUNCIL IN RELATION TO THE GENERAL
PENSION ACT FOR CITY EMPLOYEES.

Boston, October 11, 1911.

To the Honorable the Mayor and City Council:

GENTLEMEN,— On May 15, 1911, the Mayor transmitted to the Finance Commission, with a request for investigation and report, the following order of the City Council:

Ordered, That the Finance Commission be requested, through his Honor the Mayor, to report to the City Council as to the advisability of accepting chapter 619 of the Acts of the year 1910, as amended by chapter 338 of the Acts of 1911, entitled "An Act Relative to Retirement Systems for the Payment of Annuities and Pensions for Employees of Cities and Towns"; also to report to the City Council on the following:

(a.) The cost of the system to the city in actual pecuniary outlay.

(b.) Its effect on the service in removing aged employees who by their example tend to retard the efficiency of younger and more active men.

(c.) The positive gain resulting from the substitution of younger and stronger men for the retired veterans.

(d.) The net gain or loss to the city as a whole, measured, first, in terms of pecuniary outlay; and secondly, in terms of efficiency.

The commission respectfully submits herewith its report upon the two acts in question.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

**REPORT ON THE ADVISABILITY OF ACCEPT-
ING OR REJECTING CHAPTER 619 OF
THE ACTS OF 1910, AS AMENDED BY
CHAPTER 338 OF THE ACTS OF 1911.**

This statute was passed in the year 1910 (Acts of 1910, chapter 619) and according to its terms was referred to the cities and towns in the Commonwealth for acceptance or rejection by the City Councils or Boards of Selectmen of such cities or towns, the act if accepted by a City Council to be submitted to the voters of the city at the next municipal election, or if accepted by the Selectmen of a town to be submitted to the voters of the town at its next town meeting.

On December 10, 1910, and again on December 17 of the same year, the Finance Commission called the attention of the City Council of Boston to certain defects in the act which, in the opinion of the commission, warranted its rejection. The statements of the commission were disputed at the time in two communications, dated December 13, 1910, and December 20, 1910, respectively, by the secretary of the State Commission on Old Age Pensions which framed the original draft of the act, his opinion being that the act, though admittedly defective, was defective only in minor particulars which could easily be remedied at the next session of the Legislature. These statements by the Finance Commission and by the secretary of the Commission on Old Age Pensions, together with a copy of the act, were printed in a pamphlet entitled "Communications on the Civil Pension Act," issued shortly after.

The act was not accepted by any city or town in the Commonwealth; and at the following session of the Legislature (1911) a number of amendments were made to remedy defects which had been pointed out by the commission in its communications to the Boston City Council. (See pamphlet above referred to, and

Acts of 1911, chapter 338; Finance Commission's Reports, Volume VI., pages 221-230, inclusive; and another article by the secretary of the Commission on Old Age Pensions printed in the *City Record* of October 7, 1911, pages 792, 793.)

The more important of these amendments are as follows:

1. More effective provisions have been made for the retirement of employees of the city.

(a) By providing for the payment of an annuity and a pension based upon subsequent service to a member who is retired without his consent at the age of sixty years after fifteen years' continuous service. The original act failed to make provision for such a case.

(b) By providing that an employee, not a member of the association, who had reached the age of fifty-five years on the date when the retirement system was established, may be retired at any time and paid a pension equivalent to the minimum payment provided in the act. The original act made no provision for such a case.

2. The provisions for the election of the second member of the Board of Retirement have been amended so that they are now workable, thereby making the retirement system itself possible of operation. It was impossible of operation under the original act.

3. Provision has been made for consulting the wishes of the head of a department with respect to the retirement of an employee who is a member of the retirement association, and who has reached the age of sixty years after fifteen years' continuous service; and also in the case of a member of the retirement association who has had thirty-five years continuous service irrespective of his age. Such employees could be retired under the original act without the recommendation of the head of the department in which they were employed, but cannot be under the amended act without such recommendation.

4. Any unexpended balance of the money appropriated by the city for the administration of the system must be returned to the City Treasurer under the amended act, whereas under the original act such unexpended balance might have been credited to a fund for the benefit of the members of the association.

5. The claims of members of the Board of Retirement for reimbursement for any expense or loss of salary or wages incurred through service on the board, the appointment of clerical or other assistants by the board, and the making of by-laws and regulations not inconsistent with the act, are all made subject to the approval of the City Council under the amended act; whereas all these matters were within the sole power of the Board of Retirement under the original act.

Certain provisions of the original act which were criticized by the Finance Commission still, however, remain. Thus, an employee discharged for misconduct would not lose his right to a pension if reinstated within a year. This provision violates the principles of all pension acts based upon honorable service. As stated by the Finance Commission in its report to the City Council, under date of December 10, 1910:

One discharged for such cause should not be reinstated at all. This provision would operate to the city's detriment. The sentimental considerations arising out of the employee's previous service and payments to the retirement fund, reinforced by political influence, would make it difficult to discharge an offending employee in the first instance,— or, if discharged, to refuse him reinstatement within the year. It would make the claim of the incompetent or insubordinate employee to continue in the service even more like a vested right than it now is — the exact opposite of the effect a well-drawn pension act should have. (Finance Commission Reports, Volume VI., page 224.)

The act is still open to the criticism that notwithstanding the fact that the public has been given the impression that it provides substantially equal contributions by the city and by its employees, the city will be

required to pay the entire expense of the administration of the system, which is estimated at \$25,000 a year. Moreover, it is still open to the weightier objection that the Retirement Board, which is given large powers of control over the retirement of employees, the fixing of the percentages of wages or salary and the classification of annuitants and pensioners under the act, may lead to the formation of a political machine which would exercise great influence over thousands of city employees. Such an act should be administered by a board entirely nonpolitical in its character and beyond the reach of political influences. Under this act the City Treasurer, by virtue of his office, becomes a member of the board, the members of the association elect one of their number a second member of the board, and these two members of the board elect a third member, thus making it probable that the personal or the political influences of the representatives of the city administration for the time being, and the city employees as well, would be regarded as superior to the financial interests of the city.

In the opinion of the Finance Commission these defects in the act are sufficient to warrant its rejection by the City Council, but even if all of these defects had been remedied by the last Legislature the commission would still be of the opinion that the act would ultimately operate to the financial detriment of the city. The reasons for this opinion are as follows:

1. RETIREMENT OF EFFICIENT EMPLOYEES.

As applied to the City of Boston the act provides a means by which all city officials and employees (except those whom existing pension laws affect, such as firemen, policemen and school teachers, and also except officials elected by popular vote) may retire voluntarily from the city's service, or be retired without their consent, with an annual allowance in the form of a pension or annuity or both. The act applies alike to the head of a department who receives \$9,000

a year and to the lowest paid employee in the service of the city. Highly paid officials may retire after thirty-five years of service in full possession of their powers and still receive a pension from the city even though they subsequently enter private employment or business and receive large salaries or profits therefrom. The amount of the pension in such cases would not be large, but, added to the expected profits or salary in private employment or business, might easily furnish sufficient inducement for the retirement of officials entirely capable of serving the city for many more years. It is manifest injustice to compel the city to pay a pension upon retirement to a highly paid official who has the necessary physical and mental ability to render further service to the city, yet the act would permit this to be done. Under the act the question of retirement does not depend upon the physical or mental incapacity of the employee, but rather upon the question of the length of his service. Many persons entirely fit for further service might be retired at various ages ranging between fifty and sixty. In this respect the act seems to the Finance Commission to be wholly without justification.

2. CLERKS AND EMPLOYEES ABOVE THE GRADE OF CLERKS.

The compensation of the city's clerical force is now far in excess of that paid by the state or by private employers. If a pension system were adopted every laborer, artisan, mechanic and clerk privately employed and residing in the city, as well as all tradesmen, merchants, manufacturers and business men, would have to bear the burden of an additional tax in order to give a further privilege to an already privileged class. In this connection the attention of the City Council is respectfully invited to the following statement in the commission's report to the Legislature, under date of January 20, 1911:

The clerks employed by the city are far more favorably treated than clerks in private employ. The latter, as a rule, work a greater number of hours, perform much more work in an equal number of hours, and receive less pay than clerks in the city's employ. Moreover, clerks employed by the city are retained without regard to the city's financial condition, whereas clerks in private employ are always subject to the risk, and frequently to the loss, of employment, due to the vicissitudes of industrial and commercial life. The clerks of the city are also paid much more than the clerks employed by the Federal government or by the Commonwealth. (Finance Commission Reports, Volume VI., pages 13, 14.)

Further material for study is found in the reports of the Finance Commission respecting the number, salary and efficiency of the clerical forces of the city. Attention is particularly called to the following reports: Vol. I., pp. 340-345; Vol. II., p. 201; Vol. VI., pp. 13, 36.

To impose fresh taxes upon the entire community in order to pension employees above the grade of clerks, including the professional men in the service and the heads of departments, would be even more unreasonable. If the highly paid employees of the city have been improvident, and consequently have not at the end of their long service acquired a competency, the fault is their own and not that of the taxpayers of the city.

A general pension for municipal employees has, in the past, been urged upon grounds of sympathy for the poor city workers. Such a view wholly neglects the even greater sympathy due the even poorer workers *not* in city employ, whom it is now proposed to tax in order to favor still further their already comparatively favored brothers. The advocates of the act have taken the position that this line of argument "begs the question," inasmuch as it rests on the assumption that the effect of the act will be to increase the city's expenses—and hence the taxes—on labor account. It is true that the argument of injustice depends in part upon the

increased expense on labor account which may be caused by the act, but the Finance Commission thinks it shows herein strong grounds for believing that such an increase would in fact result from the adoption of a general pension scheme.

3. CONDITIONS OF PUBLIC EMPLOYMENT IN BOSTON.

The conditions of public employment in Boston should be attentively studied before it is assumed that the city is under any obligation to provide its employees with pensions.

It has been the practice in Boston upon each change of administration to make relatively few removals, except of heads of departments, but to make additions to the labor and clerical forces so as to provide places for the supporters of the party that was successful in the election. An enormous pay roll is the result of these accumulations, with the accompanying unwarrantable increases in salaries, and a large part of the heavy expenditures and debt of the city is due to the appropriations and loans which have been passed to provide salaries and wages for this army of employees. In the execution by day labor of the work for which such loans provided the city has sustained losses of millions of dollars. These losses were caused principally by the inefficiency of the city's forces, an inefficiency due largely to politics, as has been pointed out frequently in the reports of both the former and the present Finance Commissions and the experts employed by them. To liken such conditions to the entirely different conditions in private employ which justify private pension systems would involve a serious fallacy.

4. THE ULTIMATE COST OF THE PENSION SYSTEM.

The advocates of a general pension scheme lay special emphasis on the need of relieving municipalities of the expense of superannuated employees. The Finance Commission believes, however, that the acceptance

of the pending act would ultimately cause the City of Boston heavy financial loss. The contributory system would soon be attacked as a hardship upon the employees, especially upon laborers and mechanics. The city employees would demand, and by political pressure would probably obtain, increases in wages equal to their contributions to the retirement fund. This accomplished, the next step would be the elimination of the contributory feature of the system. Thus finally the city would bear the entire expense of both the pension system and the increased wages of its beneficiaries. Meanwhile, as employees were retired, new and unnecessary appointments would be made for political reasons, the size of the city's force would be undiminished, and the total expenses of the city would be increased far beyond any possible gain from increased efficiency due to the retirement of the superannuated.

It may be argued that the city can avoid these dangers as well as a private employer could who establishes a private pension system for his employees. But experience has abundantly proved that public control and management is far less efficient than that of private employers. Private pensions are paid by an employer out of his private purse and are at all times under his control. He can increase or reduce or withdraw them at will; public pensions, however, are paid by the entire community and it gives less attention to its affairs than private employers do to theirs. The public pension system once established will never be withdrawn and its beneficiaries, and not the community as a whole, will largely if not entirely control its operation.

5. NO AMERICAN PRECEDENT FOR THE ACT.

Finally, there is no reason why Boston should be the first municipality in the United States to try the experiment involved in a general pension act. According to the report of the Commission on Old Age Pensions, dated January 15, 1910, no American state has adopted

any general system of old age pensions or insurance (see House Document 1400 of 1910, page 78), and the Finance Commission knows of no precedent for the pending act so far as American cities are concerned. Moreover, though the cities and towns of this Commonwealth have had opportunity to adopt the act since its passage on June 14, 1910, none of them have accepted it up to the present time.

ANSWERS TO THE SPECIFIC QUESTIONS OF THE CITY COUNCIL.

Having stated the reasons for its objection to the passage of the general act, the Finance Commission herewith submits its answers to the specific questions of the City Council.

(a) *The Cost of the System to the City in Actual Pecuniary Outlay.*

This question cannot be answered as the cost cannot be determined until the Board of Retirement decides upon the percentage of the salaries or wages which various classes of members of the Retirement Association shall contribute to the retirement fund. Under the act the Retirement Board has the power to fix the percentage of the salaries and wages to be paid by members at from 1 to 5 per cent., to classify employees for that purpose, and to establish different rates of contribution for different classes. Before the percentages are fixed and the classification of employees is completed it will be impossible to determine what the pecuniary outlay to the city would be in any given year, even if the entire number of persons to be affected by the act were known, which also is impossible to estimate beforehand. A special committee, consisting of the Secretary of the State Commission on Old Age Pensions, the City Treasurer and the City Auditor, estimated the cost of the system in the first year of its operation under the Act of 1910, on the basis of 1 per cent. payments by city employees, at \$119,958.41. (See *City Record*, Decem-

ber 10, 1910, pages 907, 908.) This estimate rested upon certain assumptions, some of which were admittedly arbitrary. The estimate is doubtless as accurate as any that could be obtained, but because of its uncertain bases the Finance Commission is unable to state how much reliance should be placed upon it.

(b) *Its Effect on the Service in Removing Aged Employees Who by Their Example Tend to Retard the Efficiency of Younger and More Active Men.*

If only the incapacitated were removed and efficient employees were always appointed in their places this would have the effect of increasing the efficiency of the city's forces. Past experience, however, affords sufficient ground for the assumption that inefficient employees would be removed for political reasons only to make places for others, abler perhaps, but no more efficient in fact. Moreover, if the many employees who were not then and never had been needed should be retired under the terms of the act, and their places filled by younger employees, the net result would be only a loss to the city of the amount of pension paid to the retired employee, as full wages would be paid to the new but unnecessary employee. In other words, the city would still have a superfluous employee to whom it would pay full wages, besides being obliged to pay a pension to the former employee.

(c) *The Positive Gain Resulting From the Substitution of Younger and Stronger Men for the Retired Veterans.*

There would be positive gains resulting from the retirement of veterans for whom there was work which they could not perform. There would be a financial loss, however, in the event of the retirement of veterans for whom there was little or no work if their places were filled by younger employees for whom there would be practically no work.

(d) *The Net Gain or Loss to the City as a Whole Measured First in Terms of Pecuniary Outlay, and Secondly in Terms of Efficiency.*

As to this no statement can be made which is susceptible of proof, as the result will depend wholly upon the manner in which the system is administered. In the opinion of the commission, unless political conditions change materially, there would be an actual financial loss and no corresponding gain in efficiency.

CONCLUSIONS.

The conclusions of the commission briefly stated are as follows:

1. The general pension act as originally passed was defective and unworkable.

2. The act has since been amended in several particulars and has been thereby materially strengthened.

3. The act still contains several defects, however, which are of such a serious character as to warrant its rejection by the City Council.

4. The commission, for reasons already set forth, is opposed to a general pension scheme for all employees of the city.

The commission, therefore, recommends the rejection by the City Council of the general pension act. (Chapter 619 of the Acts of 1910, as amended by chapter 338 of the Acts of 1911.)

The commission still has the laborers' pension act (chapter 413 of the Acts of 1911) under consideration, and expects to report upon the same within a week or two. The commission, therefore, respectfully suggests that the Council delay action upon the laborers' pension act, as nothing will be lost by such delay, inasmuch as the act, according to its terms, cannot become effective before the first day of March, 1912.

COMMUNICATION TO THE CITY COUNCIL
IN RELATION TO THE PENSION ACT FOR
LABORERS IN THE EMPLOY OF THE
CITY OF BOSTON.

Boston, October 23, 1911.

To the Honorable the City Council:

GENTLEMEN,—The City Council on May 8, 1911, referred to the Finance Commission for its report and recommendations an act of the last Legislature which provides for the retirement of laborers employed by the City of Boston, and which will become effective, if accepted by the City Council, on the first day of March in the year following such acceptance. The act is as follows:

• [ACTS OF 1911, CHAPTER 413.]

AN ACT RELATIVE TO A RETIREMENT FUND FOR LABORERS
EMPLOYED BY THE CITY OF BOSTON.

SECTION 1. There shall be a retirement board for the laborers employed by the city of Boston, consisting of the Mayor, the auditor and the treasurer of the city, who shall discharge the duties hereby imposed upon them without additional compensation.

SECT. 2. Any laborer employed by the city of Boston, who has reached the age of sixty years and who has been in the service of the city for a period of not less than twenty-five years, and who is physically incapacitated, shall, at his request and with the approval of the retirement board above provided for, be retired from service, and shall receive for the remainder of his life an annual pension equal to one-half of the compensation which he received during the last year of his service for the city. It shall be the duty of the said board so to retire any laborer in the service of the city who has reached the age of seventy years and has served the city for a period of not less than twenty-five years.

SECT. 3. This act shall take effect on the first day of March of the year following its acceptance by the city council of the city of Boston.

The act is intended to establish a system under which any laborer who has reached the age of sixty years, and has been in the service of the city for not less than twenty-five years, and is physically incapacitated, may upon his request and with the approval of the Retirement Board be retired from the service of the city with a life pension equal to one-half of the compensation received by him in the last year of his service, and under which also the Retirement Board must retire with pension any laborer who has served the city for not less than twenty-five years and has reached the age of seventy years, without regard to the question whether he is or is not incapacitated for further service.

I. THE LABOR PROBLEM.

The main question which the City Council should consider is whether the act will provide the most practical and humane solution of the problem of relieving the city of the expense of carrying on the pay rolls at full wages the employees in the labor service who have become inefficient on account of age. To decide this question properly requires a knowledge of the conditions in the labor service of the city.

For many years the city departments in which most of the laborers have been employed have been administered with far less efficiency and at much greater cost than such departments would have been administered under the conditions which ordinarily exist in private business. For political reasons large numbers of teamsters, watchmen and other laborers, who were not actually needed, have been employed and retained by the city. Politics has also prevented the reorganization upon an economic basis of the forces in such departments and the maintenance of proper discipline, and in consequence the city has suffered the loss of millions of dollars. Most of these losses were caused

by the wasteful methods, due to politics, which prevailed in the Paving, Sewer, Sanitary and Street Cleaning Divisions of the Street Department and in the Water Department, and in every case the carrying on the pay rolls of large numbers of unnecessary or inefficient employees contributed largely to the loss. In the Water Department there were about 1,000 employees in the winter of 1899-1900, or about 350 more than in 1895, although in 1895 the city operated a distribution system and also a large supply system, while in 1899-1900 it operated only a distribution system. The work had decreased about 15 per cent., but the force had increased about 50 per cent. (Finance Commission Reports, Volume II., pages 36, 37.) In one branch of the work of the Street Department alone, the operation of the city's stone crushers, the city lost nearly a million dollars in twelve years, largely on account of the supposed political necessity of maintaining the crushers in order to provide employment for city laborers. (Finance Commission Reports, Volume I., pages 216-220.)

Many other illustrations of the evil results of political influence in the labor service may be found in the reports of the Finance Commission, Volume I., pages 131, 132, 258, 274; Volume II., pages 36-38, 150, 202-204, 216, 217; Volume III., pages 222, 304, 306, 702, 1063, 1064.

In the Street and Water Departments, which employed the bulk of the labor force, the number of employees increased from 2931 in 1895 to 4,209 in 1907, and their compensation from \$2,195,201.50 to \$3,244,726, an increase in number of 1,278 and in compensation of \$1,049,524.50; both increases far beyond what the increase in the work warranted.

This combined pay roll of the two departments shows the result of years of subordination of business to political considerations, during which many devices were employed to load up the pay rolls with political adherents of the party in power for the time being. The

civil service law was circumvented by the employment of "emergency" men when there was no emergency and no need of such men; by the making of "provisional" appointments which afforded a political favorite a job until the time when the Civil Service Commission could hold examinations, and by the appointment of men under various ingenious designations for work which could have been performed by laborers already in the city's employ.

The year 1907, however, marked the culminating point in these abuses. Large numbers of the unnecessary employees in the Street Department were discharged in the years 1908 and 1909 as a result of the efforts of the then Superintendent of Streets to reduce the force. Others were eliminated as a result of the operation of the act which was passed in March, 1908 (chapter 210 of the Acts of 1908), requiring a certification of the pay rolls by the heads of departments under oath, and the approval of the Civil Service Commission. The extent of the abuses in the "emergency men" system was indicated in the report of the Civil Service Commission for the year ending September 30, 1909. The Civil Service Commission said (pages 17, 18):

Without question, thousands of dollars are saved to the city by the operation of the act (chapter 210 of the Acts of 1908) in keeping off the lists false "emergency men" and others whose employment in previous years the commission had no means of detecting with promptness. For example, from April to August, 1906 (a period when there were no snowstorms), there were employed in the Street Department, weekly, from 220 to 360 "emergency laborers," the majority of them generally five days per week; the cost to the city being frequently about \$2,500 per week, or, if continued throughout the year, about \$120,000 per year. This state of affairs was partially remedied by the requirement by the commission that the department should make such employments only from certified lists of men willing to take "emergency" work, and termed "regular extra laborers." This reduced somewhat the number of men so employed, but since the Pay Roll Act became law the number

of such employments has been greatly lessened, so that in December, 1908, on investigation it was found that only about 120 men were employed on "emergency" work.

The Civil Service Commission's pay roll inspector, in the same report (see pages 69-71), told of the manner in which the Pay Roll Act operated to keep "students" and false "emergency men" off the Boston pay rolls:

Another feature of the present system of pay roll inspection, and one that must commend it to every taxpayer, is the aid it offers to discipline and the direct saving of vast sums of money by its tendency to keep "students" and "emergency men" off the pay rolls. "Students" are men who may properly be on the pay rolls as regards Civil Service Law and Rules, i. e., they may have been properly certified and appointed, but they are improperly drawing pay from the city, because (1) not willing to work at all; (2) refusing to do work proper to their rating, since it "might lower their standing in the community" to be seen on the streets doing even such light work as picking up paper; (3) trying to serve two or more paying masters at one and the same time (the city, as might be supposed, always drawing the shorter end of the service, if any at all). These students used to be the despair of the district foremen, who found it impossible to get rid of them because of their influence with men "higher up," who, I doubt not, would have been only too glad in their turn to shake off this influence. . . . "Emergency men" (very properly employed if in real emergencies fully provided for by Civil Service Law and Rules) were another form of abuse, by which hundreds of thousands of dollars (I speak advisedly) have been drawn from the city treasury unnecessarily, and for which service to the city has been rendered in rare cases only.

In addition to the reductions in the number of employees thus accomplished by the Superintendent of Streets and the Civil Service Commission there have been other reductions due to death or resignation, and the labor force in the Street and Water Departments was much more efficient in the years 1908-09 and 1909-10 than it had been for several preceding years. Nevertheless the labor force was then and still is far below the efficiency of a private contractor's force. In February

of 1910 several city officials gave the Finance Commission their estimates of the efficiency of city laborers, as compared with that of laborers in private employ, and these estimates are set forth as follows in Volume VI., pages 38, 39, of the commission's reports.

The former Superintendent of the Paving Division, James H. Doyle, stated to the former Finance Commission that the employees in his department did far less work than persons in similar occupations privately employed, and that the cost of work performed by city labor was far in excess of that performed for the city by contractors. Former Chief Engineer (now Deputy Superintendent) of the Paving Division, James H. Sullivan, states that the employees in that division are much less efficient than others in private employ, and that, in fact, contractors receive twice as much labor for each \$2.25 expended as the city receives from the day labor force in the Paving Division.

Chief Engineer of the Sewer Division, Edgar S. Dorr, states that work done by the labor force of the department costs 25 to 50 per cent. more than it would cost the city if done by contract. Deputy Superintendent of the Sewer Division, C. Barton Pratt, states that the force is far less efficient than labor in private employ, as shown by the fact that the cost of work performed by the department force ranges from 50 to 100 per cent. above the cost of similar work done by contract.

Deputy Superintendent of the Sanitary Division, George H. Foss, estimates the efficiency of the labor force in this division as about two-thirds of that of private contractors.

The present Superintendent of Streets, Guy C. Emerson, estimates that the average efficiency of the labor force of the several divisions of the Street Department is 25 per cent. less than that of private contractors.

The present Water Commissioner, William E. Hannan, states that the laborers in the Water Department perform about one-half as much work a day as a contractor's force, and that a contractor receives twice as much labor for the \$2 he pays as the city receives for the \$2.25 it pays.

There have been further reductions since 1910 in the force of the Street Department, now merged in the Public Works Department, but the efficiency of the force is about the same as it was a year ago.

It should be noted that the inefficiency of the labor force of the city is not due entirely to the presence of men who have grown old in the service and who, by reason of their age, have become unable to perform a full day's work. Much of the inefficiency of the labor force is due to politics and the resulting lack of discipline. Many of the younger employees, though able to do a full day's work, actually perform no more work than some of the older employees. It is true, however, that the inefficiency of the labor force as a whole is caused in part by superannuated employees, and therefore the removal of such employees would be a partial solution of the problem of inefficiency in the labor force as a whole.

II. THE JUSTIFICATION FOR A LABORERS' PENSION ACT.

Though many laborers now in the city's employ have rendered faithful service, the foregoing review of the situation shows that many others have not, and therefore a Laborers' Pension Act cannot be justified on the theory that the force as a whole is now entitled to exceptionally favorable treatment. The city's laborers have been and are being dealt with very generously as compared with laborers in private employ. The day laborers receive \$2.25 a day, or at least 25 cents more than the prevailing rate paid employees of private contractors, whereas the city laborers' day, though nominally eight hours as against the nine-hour day of the employees of private contractors, is actually only seven hours, as at least an hour each day is lost to the city through the existing custom of going to the city yards within instead of before and after the day's work. Thus it appears that the rate of pay per hour of actual work for city laborers is $32\frac{1}{2}$ cents and for laborers in private employ $22\frac{2}{3}$ cents per hour, an excess of about 10 cents per hour, or about 45 per cent. more for the city laborers. Moreover, the city laborers are paid for days when they attend their various annual picnics, for legal

holidays and for Saturday half holidays, also for sick leave; the total allowances for these purposes amounting to about 10½ per cent. of the day labor pay roll. On the other hand, laborers in private employ get no payment for holidays or sick leave as a rule, but are paid only for the time they actually work. Finally, the city laborers are now, and usually have been, kept on the pay rolls continuously throughout the year whether there was work for them or not, whereas laborers in private employ are frequently laid off without pay on account of lack of work or stormy weather. It has been the almost invariable custom in this city to carry upon the pay rolls during the entire year large numbers of laborers and mechanics whose services for about four months of the year could have been dispensed with. Thus, the Commissioner of Public Works stated last year to the Finance Commission that 750 employees of the then Street Department, or about one-fourth of the force, could have been laid off on the first of December, and the commission believes about one-fourth of the 558 employees of the Water Department could have been laid off likewise. The net result of the various differences between the conditions of labor in city and private employ is that, measured by the hours of actual service, the city laborer is paid at least 50 per cent. more than the laborer in private employ. Moreover, the city laborer accomplishes much less per hour of actual service than the laborer in private employ.

The foregoing facts show that from the standpoint of the city as an employer of labor there is no justification for a Laborers' Pension Act except the financial saving resulting from its operation. The old laborers, unless pensioned, will not be removed even though totally inefficient; in fact, public sentiment would not sustain the policy of retiring such men without pension. Their wages, though larger than those of laborers in private employ, have been small in comparison with those of most other city employees; they have had little or no opportunity for advance-

ment during their term of service, and a large proportion of them have made no provision for their old age. If retired without pension most of them would be unable to obtain private employment or to perform work in private employ if it should be obtained for them. It must be assumed that unless retired with pension they will continue to be kept on the pay rolls at full wages; and this is in effect a very expensive pension system, already in operation, without sanction of law.

If the old and inefficient laborers in the city's employ were retired on a pension equal to half their former wages, as the pending act provides, and their places were not filled by new appointments, the city would save in the aggregate a sum equal to one-half the wages paid to all the retired laborers. If, however, the retirements were followed by new and unnecessary appointments the city would pay the full amount formerly paid as wages and half as much again for pension. In every case of an unnecessary appointment to fill a vacancy caused by retirement the city would pay \$1.50 for every \$1 it paid prior to the retirement, and its last state would be worse than its first.

III. DEFECTS IN THE PENDING ACT.

A proper Laborers' Pension Act, faithfully carried out, would save the city a large sum every year. The pending act, however, does not meet the requirements of the situation. Its defects seem to the commission to be as follows:

1. *Indefiniteness as to Beneficiaries.*

In the first place it is so indefinite as to the persons who may become entitled to its benefits that it may lead to serious abuses. It provides pensions for "any laborer employed by the city of Boston who has reached the age of sixty years," etc., and for "any laborer in the service of the city who has reached the age of

seventy years," etc. Under these provisions a laborer who had previously been in the service of the city twenty-five years, but who had left the service voluntarily, or had been discharged, might be permitted to re-enter the service, not for the purpose of performing further work, but for the sole purpose of retiring with a pension a few days or weeks later. Such an attempt has already been made by some employees who were formerly in the city service, but were actually out of the service at the time when the pension act relating to veterans of the Civil War in the employ of the City of Boston went into effect. (Acts of 1911, chapter 113.)

2. *Exclusion of Mechanics.*

The act in terms applies to laborers and not to mechanics, and though many persons are employed by the city as mechanics they would not, in the opinion of the commission, be entitled to the benefits of the act. These mechanics are classified by the Civil Service Commission as part of the labor force, but they are designated as mechanics, as distinguished from laborers, and as this distinction is based upon actual differences in the kinds of work performed by laborers and mechanics it would in all probability be upheld by the courts, and consequently mechanics would be debarred from retiring with a pension under the act. A considerable portion of the labor force would thus be prevented from retiring with pension. To illustrate: In the first year of the operation of the act 165 laborers in the Public Works Department would become eligible for retirement, and if mechanics were eligible, 33, or one-fifth of the number of laborers, could also be retired in that year. If, as the commission believes, mechanics could not be retired, discrimination between two branches of the labor force would result, which would be unfortunate for the city, as it would still leave a large part of the problem of superannuation in the labor force unsolved.

3. *No Tests for Incapacity.*

Under the pending act no tests are required and there is an opportunity to do injustice to the city by retiring one who is able to work, and for whom there is work; especially when there is work of a not excessively laborious nature, such as that of a watchman, custodian or stockkeeper. By placing such men in the comparatively easy positions they could be made useful to the city for a few years longer at least, and during this period the city would save the amount it would otherwise pay them as pensions if they were retired and other employees were put in their places at full wages. The city physician should make tests of the capacity of employees who are between sixty and seventy years of age and who request retirement.

4. *The Service Period is Too Long.*

The act provides only for laborers who have served the city not less than twenty-five years. This period is too long to be effective in dealing with the superannuated laborers, as many of them entered the city's employ so late in life that in all human probability they will not live to complete twenty-five years of service, but will linger on the pay rolls at an advanced age, and at a dead loss to the city of the wages they are paid. The advanced age at which many laborers entered the city's employ was shown by the reports of the former Finance Commission and the engineers whom it employed. It was shown that of the 1,253 laborers in the service in 1907 in the Water Department and the Sewer Division, 416, or about one-third of the force, were employed when forty years old or over, 249 when forty-five or over, and 99 when fifty years or over. (Finance Commission Reports, Volume I., pages 268, 269; Volume III., pages 72 and 418.) Incidentally it may be noted that the facts cited show how false is the sentiment in the rhetorical phrases sometimes heard concerning "these men who have grown old in the city's service," implying that the men have given a lifetime of service to the

public. The fact is that while there are many old laborers working for the city, a large proportion of them were already well advanced in years when they secured their positions.

Information was furnished to the commission within the last few days by the Public Works, Public Grounds, Cemetery and Park Departments, as to the number of laborers who would be eligible for retirement under the act in the first year of its operation, and the ages and lengths of service of other laborers who would not become eligible in the same year. The information received is set forth in the following table:

DEPARTMENT.	Number of Laborers Eligible for Retirement in First Year.	Number Between Fifty- five and Sixty Years Old and not over Ten Years in the Service	Service	Number Between Sixty- five and Seventy Years Old and not over Fifteen Years in the Service.	Number Seventy Years Old or over and not over Twenty Years in the Service.
Public Works.....	165	61	54	14	14
Public Grounds.....		6	12	1	3
Cemetery.....	4	2	4	.....	2
Park.....	8	4	7	1	.....
Totals.....	177	73	77	16	19

The first column shows 177 eligible for retirement in the first year of the operation of the act. The other four columns show that there are 185 laborers in these four departments who are either closely approaching the age when retirements would be possible under the act, or have passed the age, but who for the most part will in all probability never live to finish a twenty-five-year period of service and hence never become eligible for retirement with pension under the act. Most of them will be obliged to continue at work in their advanced age with no possibility of securing a pension, while their younger fellow laborers, who entered the service earlier in life, will be able to retire with pensions.

5. *No Provision for Contribution.*

The pending act does not provide for contribution by the laborers. Contributions cannot of course be obtained from the employees who are eligible now and who would be retired with pension almost immediately after the act went into effect, but it should be expected from those who will remain on the city's pay rolls for a considerable length of time after the act becomes effective. As stated by the Finance Commission in its report upon the General Pension Act (chapter 619 of the Acts of 1910, as amended by chapter 338 of the Acts of 1911), a contributory feature will be attached, but it is a necessary feature of a civil pension system for public employees and should be retained at all hazards. The city should not be required to help those who are unwilling to help themselves.

IV. A BETTER ACT SHOULD BE PROVIDED.

If a policy of pensioning laborers is to be adopted it is especially important now, when for the first time in this or any other American city retirement acts for such public employees are to be tried, that legislation which will be of such far-reaching importance and which will be regarded as a precedent should be made as complete as possible at its inception, and that each of its parts should be considered in its relation to the others. The pending act should be rejected, and a substitute should be submitted to the next Legislature. The object of any such act should be to save the city money now lost through payments of full wages to superannuated laborers and mechanics. To secure this object the following provisions should be contained in the act:

1. The service period should be fifteen years.
2. Mechanics in the labor force should be included as well as laborers.
3. Tests of capacity should be made of employees between sixty and seventy years of age by the city physician upon the request of the heads of departments.

4. Employees who reach seventy years of age should be retired without proof of incapacity on the filing of certificates of retirement with the City Auditor by the heads of departments.

5. There should be safeguards against the re-entry into city employ of those actually out of the service who desire to retire in a few days or weeks with a pension.

6. Heads of departments who intend to fill vacancies caused by retirement should be required to file a statement under oath with the City Auditor, stating the reasons for filling such vacancies.

7. Certificates of incapacity of employees should be filed by the city physician with the Auditor before retirements become effective.

8. The City Auditor should keep a record, open to public inspection, which would contain the essential facts in regard to retirements and the filling of vacancies caused thereby; and he should publish an annual report showing the effects of the retirement system upon the expenditures and the efficiency of the various departments.

9. There should be no board of retirement or employees' association; the City Treasurer should be able to administer the financial part of the system; and the heads of departments, aided by the city physician, should be able to administer the other part of the system.

10. There should be provision for contribution by the employees.

11. There should be a provision requiring the physical examination of laborers and mechanics who hereafter seek employment in the city's service, and prohibiting the employment of those who are physically unfit.

12. The act should become effective only upon its acceptance by the Mayor and City Council.

CONCLUSIONS.

The commission believes the pending act would not be effective in dealing with the problem of inefficiency in the labor force.

If such an act as the one suggested by the commission can be obtained, the city will be enabled to save a large sum annually, provided the system established under it is administered with proper regard for the city's financial interests. The act will not operate automatically to save the city money, and it may, through political abuses, such as the unnecessary filling of vacancies caused by retirements, operate to increase the city's expenses without materially increasing the efficiency of the labor force.

With such an act in effect, honestly administered, the deaths, resignations and retirements will in a few years reduce the labor force to a strictly maintenance basis; this force will improve in efficiency, and the construction work can then be done entirely by contract, all to the great advantage of the city.

RECOMMENDATIONS.

The commission recommends:

1. That the pending act (chapter 413 of the Acts of 1911) be rejected by the City Council.
2. That a new pension act be drawn on the lines suggested herein and submitted to the next Legislature.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

COMMUNICATION TO THE MAYOR IN RELATION TO THE PROPOSED CONTRACT FOR THE DISPOSAL OF CITY REFUSE.

Boston, October 25, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,— On October 24, 1911, the Finance Commission received from the Commissioner of Public Works a letter which was sent to Your Honor by Edward F. McClennen, attorney for the Boston Development and Sanitary Company, under date of October 21, 1911, in which the writer urged Your Honor to award the contract for the disposal of city refuse to the Boston Development and Sanitary Company on its bid of April 24, 1911, or "If in your judgment any further investigation is required, that you direct the Commissioner of Public Works to submit all proposals received to date and all other information and data he has on the subject to the Finance Commission, requesting them to investigate and report as to the best thing to be done to close this matter up without further delay."

The bid of the Boston Development and Sanitary Company above referred to was one of ten bids submitted upon April 24, 1911, all of which were investigated by the Finance Commission with the results stated in the commission's letter to the Commissioner of Public Works, dated June 9, 1911. In this letter the commission stated that the method of disposal proposed by the Boston Development and Sanitary Company seemed unobjectionable from the standpoint of public health; that the total cost to the city, including the payments to the contractor and the city's cost of carting would be less than the total cost under the bid of any other contractor whose method of disposal is free from

objection; and that the commission believed the proposal of the Boston Development and Sanitary Company, all things considered, was more advantageous to the city than any of the other bids.

The Commissioner of Public Works, however, declined to award the contract to the Boston Development and Sanitary Company and rejected all of the bids. He has since stated to the commission that he does not intend to reopen the case but regards the bidding of April 24, 1911, as a closed incident. He has exercised the discretion which the law permits, and he states that he accepts the responsibility for his decision, as he believes a new competition will result in bids more advantageous to the city than any of the ten submitted on April 24, 1911.

The commission, believing the decision of the Commissioner of Public Works to be unalterable, has since authorized its engineer, Mr. Guy C. Emerson, to assist the Commissioner of Public Works in preparing new specifications upon which new bids are to be solicited. These specifications are practically completed and the Commissioner of Public Works intends to advertise for bids within a few days.

Under these circumstances the Finance Commission thinks it would be a waste of time, and possibly a cause of financial loss to the city, to repeat its investigation of the bids of April 24, 1911; and therefore it believes that the Commissioner of Public Works should be authorized by Your Honor to advertise for bids on the new specifications at the earliest possible moment.

Respectfully submitted,

THE FINANCE COMMISSION,

by JOHN A. SULLIVAN,

Chairman.

COMMUNICATION TO THE MAYOR IN RELATION TO THE CAUSES FOR THE COLLAPSE OF A BUILDING ON HANOVER STREET.

Boston, November 1, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,— On October 14, 1911, Your Honor requested the Finance Commission to investigate and report upon the collapse of a building at the corner of Hanover and Battery streets, Boston, on October 10, 1911, which resulted in the death of three men, in order that responsibility for the accident might be determined and means devised to prevent a recurrence of similar accidents hereafter.

The cause of the collapse has been investigated by the engineer for the commission, Mr. Guy C. Emerson, and his report, with sketches showing the conditions prior to the collapse, is submitted herewith.

The placing of responsibility upon all who contributed to the accident is difficult, if not impossible, as the principal witness, Joseph Adolph, the builder, is dead, having been killed by the collapse of the building. If he were living, his version of the accident and its causes might show that others shared with him primary responsibility for the accident.

The cause of the accident is not in dispute; it was due to the attempt to support a great weight by a column which rested on a pier that had been constructed of materials of insufficient strength and in an unworkmanlike manner. It was primarily due to the ignorance or recklessness of the builder, Joseph Adolph, who had charge of the construction. He could have had the pier built in a workmanlike manner of good stone blocks, laid in Portland cement, for practically the same cost as that of the faulty pier.

The owner of the building, Louis Weinberg, is the living witness of his relations with Joseph Adolph, the builder. His contract with the builder seems to have provided for sufficient money to construct the building of proper materials and in a proper manner, and it provides that the building shall be constructed in conformity with the building laws. He stated to the Finance Commission that he knew Adolph was not an architect, but that he had complete confidence in him and never heard anything regarding his building operations which would cause him to doubt his ability. He stated that his confidence was so great that he visited the building only two or three times during its construction. The Finance Commission has been informed that Adolph was a teamster, or expressman, up to about fourteen years ago, and that he had not had any training up to that time which would specially fit him for the work of building or supervising the construction of buildings; he has, however, been engaged in building operations since that time, generally in partnership with a competent builder. Mr. Adolph did not have the aid of an architect's supervision of the construction as the architect was employed only to draw a plan which would pass muster at the Building Department. The law does not require the owner to provide an architect's supervision and apparently Weinberg believed it unnecessary, owing to his confidence in the builder. The results indicate that the builder was incompetent or reckless; but there is nothing to show that the owner had reason to believe that the builder would attempt to construct the pier in question in an improper manner, and consequently the owner should not be held responsible for the accident.

The building inspector, Edwin H. Oliver, stated to the commission that the pier was constructed on or about the 15th of August, on a day when he did not visit the premises. He said that the builder told him that it was built of block stone similar to that which had been laid in the wall extending back from Battery

street and which had been properly constructed. It is known now that this statement, if made, was false; but the inspector says that there was a large granite block on the top of the masonry which was to support the column, and that he took the builder's word that the rest of the masonry was of good construction. He could see only the top, as the pier was built in a hole and earth had been filled in around the pier prior to his visit. He knew that this pier was intended to support a column which would carry a load of about fifty-five tons, and that safety demanded a well constructed pier of good materials to carry the column, but he said that he was satisfied with the appearance of the top of the pier and took the builder's word that it was well constructed throughout. Excavation, which would have taken perhaps an hour or two and would have cost the owner less than \$1, would have permitted the inspector to examine the sides of the pier and to discover its weakness, but he said that he did not consider inspection necessary. Like the owner, he had confidence in the builder and confidence took the place of thorough inspection.

It now appears that the granite block, which the inspector saw on the top of the pier, was subsequently removed, and that it was replaced by either four or five courses of brick, which, however, did not cover the entire upper surface of the pier. On the top of the pier there was a cast-iron plate, sixteen inches square and one inch thick, upon which the column directly rested. This brick pier, resting on the top of the masonry pier, was not as strong a support for the column as the granite block it replaced would have been. If the granite block had remained there would have been no sudden collapse, though the engineer of the commission believes the pier would have gradually settled and would have collapsed ultimately owing to the poor materials which were used and to the faulty manner of its construction. It seems that the iron column was too long, and that instead of cutting the

column down to fit the granite block, or chiseling off the block to fit the column, the block was removed, and the brick pier, which was not so high as the granite block, was used instead as a support for the column. This was done to save time or expense, or both. The inspector states that the taking away of the granite block and the substitution of the brick pier took place after the time when he had seen the granite block on top of the pier. He also states that the column was set on the pier in his absence. He says that he saw no brick pier, as the plate was set and smoothed up with cement; and he did not know that the granite block had been removed. So far as the commission knows, all these changes may have taken place on the same day. He thinks the column was set on the 27th of August. His records show that he visited the premises on the 26th and the 28th of August, but there is no record of a visit on the 27th. The column remained in place therefore from August 27 to October 10, the date of the collapse, or forty-four days, but the commission knows of no apparent settling of the pier or other circumstance which took place in these forty-four days which would have given the inspector any warning as to the safety of the building. During these forty-four days the weight of the superstructure resting on the pier was constantly increasing as the building progressed, and rainfall softened the earth around the pier, thereby decreasing its power of resistance.

The inspector is an architect of twenty-five years' experience in connection with buildings, and seems competent. His district is large and his duties are more than one man can perform efficiently. His district begins at Central Wharf on Atlantic avenue, follows a line through Milk street, to Washington, to School, to Beacon, to Joy, to Cambridge street, to the Charles river, and around by the waterfront to Central Wharf, taking in all the territory between these lines. He states that there were about 150 buildings in process

of construction in his district at the time the building at the corner of Hanover and Battery streets was being erected, and that he was expected to cover his entire district once a week if possible. This means about twenty-five buildings a day; hence, in many cases, casual inspection.

These circumstances go far to relieve the inspector from responsibility for the collapse of the building. He cannot be blamed for his failure to visit the building on the day when the pier was built, or the day when the column was set in place, for he had more than enough work to occupy him elsewhere. But in the opinion of the commission he should have demanded that an excavation be made so that he could examine the sides of the pier. If this had been done the pier could have been rebuilt and there would have been no collapse. The circumstances justified putting the builder to the slight expense and inconvenience of the excavation. The builder had deviated from the plan filed at the Building Commissioner's office by providing a single column at the corner of the building, instead of two columns a few feet apart, as shown on the plan. The inspector knew that no amended plan had been filed and that no permit for the changed construction had been granted; in other words, that this part of the structure had been erected without authority of law. He knew also that the plans which were filed were defective, because they failed to show essential details of construction; that no specifications were filed with the plans; that no architect had been employed to superintend the construction, and that the builder, a former expressman, was not an architect, nor a man specially trained for the business of erecting such buildings.

Custom seems to permit an inspector to use his discretion in regard to such omissions and corrections, but this seems to have been a case where the inspector should have been on his guard. The inspector's testimony as to the class of builders of which Mr. Adolph

was a representative shows that he must have appreciated the need of careful inspection in this district. It is as follows:

Q. And is it true that in that section the builders have to be watched more carefully than builders in other sections, speaking generally?

A. Yes, sir.

Q. Without attempting to state the cause, you think that is the fact?

A. That is the fact. Those builders are without the necessary training to build those buildings; they are men who have been butchers — Mr. Adolph himself was an expressman.

Q. You mean prior to going into building?

A. Prior to going into building; woolen merchants, real estate men, men who have absolutely no definite knowledge of the laws of building. They become owners by payment and builders at the same time; they sublet several portions — several parts — of the work and in many cases you will never see them again. In other words, there is no one on the job to whom the inspector can report the defects or his wishes. He will find a brick mason, or a stone mason, or a carpenter, or a plasterer, each interested only in that part which concerns him. All those buildings in that district lack a general building superintendent.

Q. There was a builder, however, in this case?

A. A builder, yes.

Q. He didn't stay on the premises all the time?

A. Not all the time, he sublet the several parts of the building.

Q. Where did he go, what other buildings did he have?

A. I couldn't answer that question.

Q. Did he have other buildings to look after?

A. He — well, I think he — he was interested in some property that was being built, or is being built, out to Roxbury Crossing way. If I may be allowed —

Q. Had he been a carpenter or a mason himself, as far as you know?

A. I have been told that he knew little about brickwork or masonry.

Q. He was not an architect?

A. He was not.

Q. You distinguish that kind of a man from a man who is regularly employed in the occupation of a builder?

A. Yes. The same condition exists in the district to-day.

Q. That is, he is a builder by chance or by accident?

A. By chance, by ownership. Men of that type in that district buy a piece of land and build — become a builder.

If, under these circumstances, the inspector was not justified in putting the builder to slight expense and inconvenience, in order to satisfy himself of the safety of the structure, it may as well be understood plainly that hereafter no builder need trouble himself to file amended plans or specifications and to wait for permission to construct in a new way more profitable to him than the already authorized way, but that he may change the plan of his piers and foundation walls at will and execute his new plan with impunity, providing his piers or walls look all right on top and their sides have been concealed by filling in around them with earth or other materials. If this is to be the policy of the Building Department, the safety of the public will depend hereafter wholly upon the intelligence and the integrity of the builders, for there will be no practical restraint upon the ignorant or the reckless.

The commission believes that in all cases involving the foundations of buildings, the supports for columns, and other parts of the structure which involve the safety of the future tenants or the public, no such precaution as was omitted in the present case should be omitted hereafter. This does not mean that every trifling change in plan or construction should be compelled to await the inspection and approval of the Building Department officials, and that all work should stop meanwhile, but only that in the essentials of safe construction no reasonable precaution be omitted. The distinction between nonessentials and essentials should be clear to architects, builders and the Building Department officials — in short, to all upon whom responsibility for human safety in building construction depends.

The officials of the Building Department whose duty it is to inspect plans are not entirely free from blame in this case. The examination and the approval of the plans for this building were entirely perfunctory. The supervisor of plans states that his assistant approved the plans and that he accepted his judgment; that afterwards the Building Commissioner authorized the permit. The permit never should have been granted. The supervisor now says that if he had examined the plans himself he would not have approved them. The plans are almost entirely barren of details of construction, in fact, the architect who drew them stated that they were simply sketches. They show that two columns were to be placed at the corner of the building between the first and second floors, but they do not show upon what the columns are intended to rest. Presumably they were to rest on the foundation of the building, but if the plans were carried out one of the columns would rest on nothing, for there is an opening in the foundation wall directly under the spot where the bottom of this column appears on the plan. Presumably also the walls of the building were to rest on new foundations, as the plans seemed to provide for a new building and the permit was for a new building. But in fact there were old foundation walls on three sides of the building and the owner and the builder intended to erect the walls upon these old foundations. No specifications were filed with the plans, though this should be an absolute requirement in every building such as the one under consideration, in which there were to be eight living apartments with stores on the street floor. Here, as in the inspection of the building, confidence seems to have been the foundation of things.

The questions raised in Your Honor's communication to the commission, respecting the organization of the Building Department, the proper amount to be appropriated, the licensing of builders and the increase of the revenues of the department by the establishment of fees for inspection of buildings, cannot be answered

without further investigation. The commission believes such investigation should be made and will undertake it at an early date. For the present the commission points out that the receipts of the department may be substantially increased without any change in the law, by means of a regulation which can be made by the Building Commissioner, with the approval of the Mayor, under the authority of chapter 571 of the Acts of 1910, an act which the Finance Commission petitioned for and the Legislature enacted. Section 1 of this act is as follows:

The heads of the various departments of the city of Boston may establish, subject to the approval of the Mayor, reasonable fees or charges for the issuance of permits and licenses by said departments; provided, however, that the charge for a permit to make excavations in any street or sidewalk shall not exceed fifty cents.

Under this act a reasonable fee can be charged for issuing and recording permits; and the commission believes the reasonable cost of examining plans and specifications as a preliminary to the granting of the permit may be taken into account in fixing the fee. The Building Department in the year 1910 11 issued 19,097 permits of various kinds, and if fees had been established, graded according to the service required, as a preliminary to the granting of the permit, a sum sufficient to pay ten additional inspectors could have been collected last year without hardship to the builders. The Street Department and the Public Works Department have collected under the terms of this act since May 26, 1910, when it went into effect, \$39,167.08; the Wire Department has collected \$2,746.50; the Health Department, \$725; making a total of \$42,638.58 for these three departments; but no other department has taken advantage of the act. In other cities, such as Denver, Indianapolis and Los Angeles, enough is received in fees in the building departments to make them self-supporting. (See Finance Commission Reports, Volume V., pages 28, 29.) The service rendered

by a building department should not be paid for wholly by the taxpayers generally but a substantial portion of the cost should be borne by the individuals engaged in building operations. There is no excuse whatever for an insufficient number of building inspectors, if the department believes there should be more. This act affords a means of increasing the receipts of the department; and it could pay out of such receipts the cost of the permit division, thus allowing the employment of additional inspectors out of the regular appropriations.

CONCLUSIONS.

1. The builder was primarily responsible for the collapse of the building at the corner of Hanover and Battery streets on October 10, 1911.

2. The owner was not responsible for the collapse.

3. The building inspector failed to make efficient inspection and is therefore secondarily responsible, though his record of faithful service and the fact that he was given more work than he could do well may justly be urged in extenuation.

4. The Building Department as a whole was also secondarily responsible. It permitted a system to exist which required the inspector to do more than he could do properly. It allowed the inspector to exercise his discretion as to permitting changes in construction involving the safety of structures, without first having an amended plan filed with and approved by the Building Commissioner. Furthermore, in this case the department's inspection of the plans was perfunctory and useless; and there was no request by the department for the filing of specifications. These latter faults, however, while they might have resulted in an accident, cannot be said to be a direct cause of the accident which occurred, as it was due to the collapse of a structure which was a departure from the plans.

5. A bad condition has grown up in the building practice in certain parts of the city, whereby a class of men, not fitted for such work, undertake large operations involving the safety of many people.

RECOMMENDATIONS.

1. The building inspector should be disciplined for his fault and for the good of the service.

2. The Building Department should require proper plans and specifications for all buildings of importance, and no departures which are substantial or which involve the safety of tenants or the public should be allowed until amended plans have been filed and approved and sufficient opportunity for inspection has been afforded.

3. The Building Department should require all plans to show essential details of construction and should examine the premises before issuing a permit.

4. The Building Commissioner, subject to the approval of the Mayor, should prepare and establish a schedule of fees for permits, under the provisions of chapter 571 of the Acts of 1910.

5. Additional inspectors should then be appointed if deemed necessary by the Building Commissioner and the Mayor.

6. No additional appropriation for the department should be asked, for none is needed.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

Boston, October 18, 1911.

HON. JOHN A. SULLIVAN,

Chairman Finance Commission:

DEAR SIR,—I submit herewith report of the results of my examination regarding the building at the corner of Hanover and Battery streets, a portion of which collapsed on October 10, causing the death of three men.

The owner of the building is Louis Weinberg of 50 East Springfield street, and the contractor for the construction was Joseph Adolph, one of the victims of the accident.

The building occupies the space of two older buildings, one a brick building, formerly on the corner of Battery and Hanover streets, and the adjoining wooden building on Battery street. The foundations are very largely the old foundations of the corner building, a new back wall being erected for the extension on Battery street. The building was five stories high, of second class construction, and designed as an apartment house in the upper stories, with a store on the first floor. The walls were 12-inch brickwork. It appears that the original building at the corner of Battery and Hanover streets had a round corner, while the present building was built with a square corner above the ground floor. This change necessitated additional foundations at the corner for the support of the building. Such support was furnished by a hollow cast-iron column, 7 inches in outside diameter, with walls 1 inch thick and $11\frac{1}{2}$ feet in length, the upper end having a capital 1 foot square cast as a portion of the column. The lower end rested upon a cast-iron plate 16 inches square and approximately 1 inch in thickness, which, in turn, rested upon a masonry pier, approximately 4 feet square at the base, located outside of the old cellar wall, constructed of rubble stone masonry with a capping of four courses of brickwork, upon which the cast-iron base plate directly rested. The details of constructions are shown, so far as they could be determined at the time of my examination, by the sketch herewith appended.

The plans for the building, as approved by M. W. Fitzsimmons, Superintendent of Plans, on file at the office of the Building Department, do not show any drawing of the proposed new foundation pier or any indication of the design which it was proposed to build, although the second-story plan shows two 5-inch Lalley columns, the object of which is not clear. As regards the design shown by the actual construction, it appears that a total weight of about fifty-two tons was supported upon the 7-inch column, as shown. This weight would have increased later to about fifty-five tons, on

account of the live load of forty-seven pounds per square foot allowed by the building laws for such construction. The foundation pier was not built full size and was not symmetrical as built, on account of limited space due to old foundation walls which were not removed. Moreover, the pier was loaded eccentrically, the base plate being near the easterly edge of the pier.

An analysis of the construction shows a number of defects which must have contributed to the accident, either in themselves or by combination with other defects. The cast-iron column even with the base as constructed was perhaps of sufficient strength to have supported the necessary load upon it had it been centrally loaded. As a matter of fact it also was eccentrically loaded, and therefore it was probable that the greater portion of the load was concentrated upon one side of the column and upon a comparatively small area of the footing plate. That such was the fact is indicated by an examination of the bottom of the column and the broken plate. The bottom of the column is considerably rounded at one edge and the broken plate is also rounded, indicating a probability that a concentration of the load took place beyond the actual shearing strength of the cast-iron plate. Another reasonable theory as to the cause of the breaking of the base plate is that the plate had an uneven bearing on the masonry pier, which caused bending and final fracture in the plate.

On account of the insufficient thickness of the plate and the imperfect construction of its foundation, failure was sure to occur from one or the other of the causes given, and the particular cause of failure is not important.

As regards the masonry pier, the building laws provide that for such construction the mortar shall be no poorer than one part natural cement, one part lime, and four parts sand (see Section 15, cl. c, chapter 550, of the Acts of 1907). This mixture in itself is a very poor one and structures built with such mortar should

be allowed considerable time to thoroughly harden before the weight is placed upon them. The mortar in which the masonry of the pier was laid was evidently no better than the quality allowed by law. It apparently contained natural cement, lime and a very large proportion of sand. The lime showed a streaky appearance, indicating that it was not thoroughly slaked before being incorporated in the mortar.

It does not seem probable that the section of the statute referred to contemplated the use of such a grade of mortar in a structure buried in wet ground, as the one under discussion was, and it is probable that the law intended that such mortar should be used in foundation walls, one face of which at least should be exposed to the air. Natural cement in itself is a material whose use has been abandoned for important structures, and the addition of lime and such a large percentage of sand as was used in this case would destroy its hydraulic properties and prevent the mortar hardening in wet ground.

The pier in question was built during August of the present year and the mortar at the time of the accident had shown very little indication of hardening, as might have been expected. It was practically of no value in strengthening the masonry.

The masonry, instead of being good quality of squared stone, as contemplated in the building laws for such cases, was an extremely poor quality of rubble masonry without any attempt at bonding, so far as could be determined. It was composed of broken pieces of granite, irregular pieces of bluestone, and various similar materials, including some rounded field stones. The cap of brickwork was composed of apparently good material, although laid in the quality of mortar already described, without any attempt at bonding, so far as could be determined. The space in which the pier was built was confined to a corner in the old foundation and the pier was also eccentrically loaded, the plate being placed very near one edge, as already

stated. The proposed use of brickwork as a capping for the pier was faulty design, and a single piece of dressed granite should have been used in such an important position.

There was no base to the column beyond the cast-iron plate already mentioned, and the column rested directly on the plate with no attempt to fasten the foot of the column in any way to the pier. Neither was there any bolting of the top of the column to the steel beams supporting the superstructure of the building, as required by law. (See Acts of 1907, chapter 550, section 27.) It appears that at the time of failure the foot of the column passed directly through the iron plate, shearing out a portion of the plate and breaking it into five pieces, as shown in the accompanying sketch. The center portion of the plate remained under the column and was found under the bottom of the column, which had settled about 4 feet through the masonry of the pier, or through the joint between the pier and the old foundation. It was not possible to tell if any movement had taken place in the pier, the pier being so loosely constructed as to make it impossible to determine whether the stones removed at the time of examination were portions of the pier or other loose stones. There was, however, evidence that the old cellar wall had been cracked and pushed in, but whether from the accident or at some other time cannot be determined. It is probable that the column in passing through the pier spread the stonework in the directions of least resistance. There was no evidence of any bond in the stonework, as already stated, and only one small stone showed any evidence of fracture so far as observed.

To summarize:

1. The plans as approved were incomplete and did not show essential details of construction, notably the pier and column in question. Neither was the building constructed in accordance with the plans as submitted, so far as can be determined.

2. The design, so far as it could be determined from the construction, was faulty, both as regards the column and its supporting pier.

3. The construction was faulty, both as regards workmanship and materials.

CONCLUSIONS.

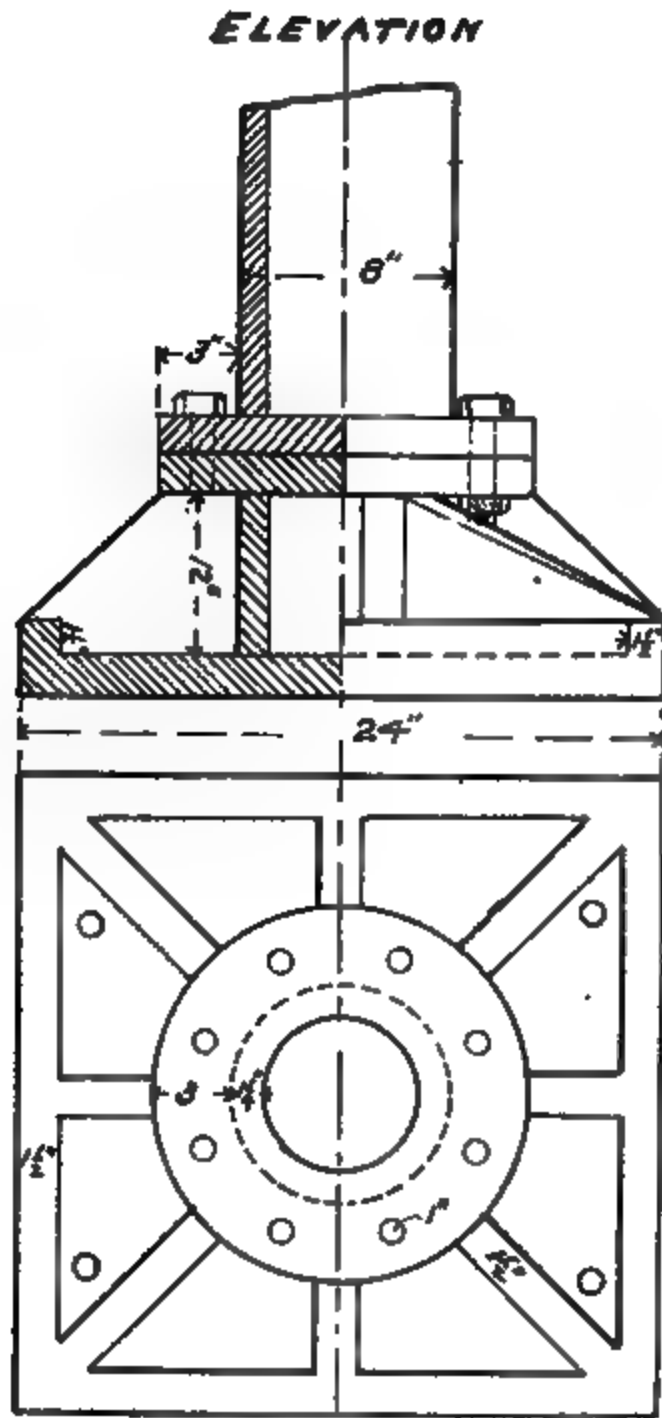
Had the pier been properly constructed of the best quality of masonry it is probable that no great settlement would have occurred, although the margin of safety with the column as designed would have been small. It is clear that the footing of the column was of defective design. The pier itself, due to imperfect materials and equally imperfect methods of construction, was totally unable to bear the weight placed upon it, and the actual cause of the failure may have been due either to the poor design, as already indicated, or to the poor workmanship, or to a combination of the two.

It is also reasonably certain that had the column been supported by a heavy cast-iron base, such as is common in such construction, of sufficient area to properly distribute the load, even with the defective construction in the pier, there would have been no sudden collapse such as did take place, although a gradual settlement might have been anticipated.

A sketch showing a conventional design for a base-plate to be used with a cast-iron column under such conditions as those reported upon is herewith appended.

Respectfully submitted,

GUY C. EMERSON,
Consulting Engineer.



SKETCH OF BASE PLATE FOR EIGHT-INCH CAST-IRON COLUMN, DESIGNED TO TRANSMIT A LOAD OF 60 TONS TO A BRICK OR PORTLAND CEMENT CONCRETE FOUNDATION PIER.

Pier top should be dressed level and, if of brick, have a granite capstone. Plate to be bedded in Portland cement mortar.

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COMMUNICATION TO THE MAYOR IN RELATION TO THE ADVISABILITY OF BUILDING A CENTRAL POWER AND HEATING PLANT AT DEER ISLAND.

Boston, November 4, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,—The Finance Commission received Your Honor's letter, dated October 4, 1911, inclosing the report of F. W. Dean, mill engineer and architect, and requesting the commission to investigate and report on the advisability of building a central power and heating plant at Deer Island at an estimated cost of \$181,000.

In submitting its report the commission desires Your Honor to know that it has relied for advice on the technical points under consideration upon the report of its engineer, Mr. Guy C. Emerson, a copy of which is appended hereto. Its conclusions have been formed after a consideration of Mr. Emerson's report, together with the report of Mr. Dean; the reports of the inspectors of steam boilers, filed at the office of the Massachusetts District Police, and an examination of the plants at Deer Island by the chairman of the commission and the Director of the Bureau of Municipal Research, Mr. George A. O. Ernst, in company with the commission's engineer, Mr. Emerson.

The detailed inspection made by the boiler inspectors seems to indicate that all the boilers are in excellent condition for the service they are required to perform, and the report of Mr. Dean does not indicate that any such detailed examination as that made by the boiler inspectors has been made by him; nor does he submit any facts which show that the boiler inspectors' reports are incorrect.

Unless the boiler inspectors' reports are incorrect the danger from explosion would seem to be remote. The amount of pressure actually used at the plants is much less than the amount allowed by the Boiler Inspection Department. Thus, it appears from a letter of the Penal Institutions Commissioner to Mr. Emerson, dated October 11, 1911, that the boilers at the power house are allowed to carry 125 pounds pressure and the ordinary pressure carried is 90 pounds; the boilers at the Women's Prison are allowed 80 pounds, and the ordinary pressure carried is 60 pounds; the hospital boilers are allowed 65 pounds, and the ordinary pressure carried is 30 pounds, and that boiler No. 1 at the institution fire room is allowed 50 pounds, while the ordinary pressure carried is 40 pounds, and boilers 1 and 2 of the same plant are allowed 100 pounds each, while the ordinary pressure carried is 40 pounds for each.

The examination of the premises by the commission's engineer and the two other representatives of the commission does not indicate that the fire risk from the present plant is excessive, or that it would be greatly reduced by the construction of a new plant. The buildings are separated from each other, and only one of the buildings which contains boilers is of wooden construction. In all the other buildings which contain boilers the walls and the floors are either brick or concrete masonry, except the machine shop, which has wooden floors.

The commission thinks Mr. Dean's estimate of an annual saving of \$5,346 on maintenance pay rolls and coal is excessive, and it seems probable that the cost of maintenance of the new plant, including interest, sinking fund and depreciation charges, will be much more than the cost of maintenance of the existing plant. It is to be noted that Mr. Dean's estimate makes no allowance for the value of the existing plant, though it should be good for many more years of service. Mr. Emerson has made an estimate of the probable cost of

maintaining a new plant, which it would cost \$181,000 to install and which would probably last twenty-five years. His estimate of the annual cost of maintenance, including sinking fund, interest and depreciation charges, wages and coal, is \$32,763 per year; while his estimate of the annual cost of maintaining the existing plant, including wages, coal and depreciation charges, is \$26,893, an excess of \$5,870 per year for the new plant, or \$146,750 in the twenty-five years which the new plant is estimated to last

The commission believes that there are many other municipal improvements which are needed far more than the building of a new plant at Deer Island at the present time or in the near future, and therefore recommends that no action providing for the construction of a new plant be taken at the present time.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

Boston, October 30, 1911.

HON. JOHN A. SULLIVAN,
Chairman Finance Commission:

DEAR SIR,— I submit herewith the results of my investigation into the subject presented in the letter of His Honor the Mayor, dated October 4, 1911, submitting the report of Mr. F. W. Dean, which emphasizes the risks of fire at the House of Correction, and recommends the construction of a central power and heating plant at an estimated cost of \$180,000. The Mayor requests that this commission investigate the proposition and advise as to the advantages which may be derived from it and as to whether the danger is so serious as to render necessary the outlay recommended by the engineer.

I have made a careful study of the report submitted by Mr. Dean and have visited the premises at Deer Island. I am somewhat familiar with the conditions at Deer Island, having spent over one year there as an

engineer connected with the building of the metropolitan sewer, and more recently having been Acting Commissioner of Penal Institutions, in charge of the institutions there.

Mr. Dean is an engineer who has specialized in the designing of mills and power plants, and he has invented an upright, internally-fired steam boiler which bears his name. It is with great hesitation therefore that I am inclined to disagree with some of Mr. Dean's recommendations, especially those which call attention to the dangerous condition of the boilers, the statements which seem to have especially disturbed His Honor the Mayor.

Some portions of the report made by Mr. Dean seem to me to be not sufficiently accurate to give a clear basis for impartial judgment. On account of lack of limiting statements the inference can properly be drawn that the present steam plant at Deer Island is in a serious and dangerous condition. A statement is made without qualification on page 2 of the report that "the boilers are unsafe on account of lap joints"; and again, that "it is only boilers with lap joints that explode"; and again, on page 3, "as they (the boilers) have butt joints they are safe."

These unqualified statements give the impression that on the one hand all lap joint boilers under any conditions of use are unsafe, and that all boilers with butt joints are safe under any and all conditions. As a matter of fact either type of boiler may be either safe or unsafe, according to its physical condition and the character of its service. It is probably a fact, however, that the greater percentage of boiler accidents occur to the lap joint boilers and the construction of the lap joint type is not in favor with the authorities. The different forms of construction involved are as follows:

Lap joints, so called, are those in which the edges of the metal plates composing the boiler shell are lapped over one another and fastened together by rivets passing through both plates. In butt joints, on the other

hand, the edges of the plates are brought together with their surfaces flush with each other and the connection is made by straps of boiler plate of suitable dimensions placed on each side, the rivets being driven completely through both the straps and the shell plates. Butt joints furnish the stronger form of construction on account of the fact that the strains in the metal plates are equal in all parts of the metal and directly in the line of the plates. The rivets also, being supported at both ends, are in so-called double shear and have nearly twice the resisting power of the same size rivets in single shear, as in lap joints. Lap joints have also a serious weakness on account of a bending at the joints under pressure, due to the necessary deviation from a true circle of the riveted portion. With the lap joints the flat sections where the joint is riveted tend to take a circular form under the internal pressure from steam and return to the flat condition when the pressure is released. Such construction for longitudinal joints is therefore prohibited by the Massachusetts laws for boilers over 54 inches in diameter. Nevertheless, under low pressure, with small variations of pressure, lap joints are safe for all practical purposes and are in general use.

There may be, however, conditions where butt joints are unsafe. No radical and unqualified statement should be made without taking into consideration all limiting conditions and treating each case independently on its merits. The reports of the District Police, Boiler Inspection Department, copies of which are hereto appended, do not show any cause for alarm as regards the conditions of the boilers at the House of Correction. All boilers seem to be well within the limits established as safe for the duties which they perform, and in addition to the ample margin of safety allowed by the boiler inspectors there is still an additional margin of safety from the fact that the boilers are not worked too near the pressure allowed, as shown by the letter of the Commissioner of Penal Institutions, a copy of which is hereto appended.

It is an undoubted fact that modern practice in the construction of large institutions with collections of buildings is to build a separate plant for furnishing power, heat and light to the various buildings in the group. Economy of land and interior space is thereby obtained, as well as an economy and increased efficiency of operation and in some cases a reduction of the fire hazard. Recent near-by examples are the Art Museum and the collection of buildings comprising Harvard Medical School. It has also been for a long period the practice in mill construction to place the boiler house in a location separate from the main structure, on account of the lessened fire risk.

If the Deer Island institutions were to be entirely reconstructed there would be little doubt about the advisability of a central power plant, but this idea has already been carried out there to a certain extent, as is shown by the fact that the boilers carrying the higher pressure are already in an independent building separate from the main institutions, and the boilers located in the fire rooms connected with the various institution buildings are those used for power, under comparatively low pressures, and those which are operated for heating purposes only during a portion of the year.

The fire rooms connected with the various institution buildings, with one exception, are fireproof structures, except the roofs, and practically separate from the main buildings. The exception noted is the hospital building, the boiler being in the basement of one portion of the building. The hospital building is a one-story, wooden structure, built with a large number of wings and covering a large area of ground. There is no doubt some fire hazard in connection with this building, but as the boilers are operated at a low pressure, and for a portion of the year only, the risk is small and the actual danger to life is small, due to the peculiar design of the structure which allows easy means of escape for the inmates and also ease in fighting the fire. All of the other buildings which have boilers connected

are of brick and more or less fireproof in their construction. It is probable that if the entire inflammable portion of their respective fire rooms were burned little damage would be done to the main building.

It should also be considered that a central plant has disadvantages, on account of the fact that an accident or fire may disable the entire plant and stop all operations, whereas only a small portion would in any reasonable probability be out of commission at any time under the present system. The problem of so designing a plant that the steam can be used from the same boilers at the different pressures necessary for power and for heating purposes is a considerable one, and with the best design some hazards are introduced and, on account of such possible complications, I doubt that firemen, or employees with similar duties, could be entirely dispensed with at the different buildings, as proposed by Mr. Dean. It therefore seems to me probable that his estimated saving in the labor there would prove to be excessive under actual working conditions. On account of the absence of plans and the general nature of Mr. Dean's report no exact analysis or criticism of his report is possible, but the estimated cost of a new plant furnished by Mr. Dean seems reasonable and, although in my opinion somewhat low for general conditions, might be ample for the purpose at Deer Island, where prison labor can be utilized to a considerable extent, especially in the digging for the foundations and in the construction of the transmission conduits. The changes which I would suggest regarding his estimate, moreover, would cheapen the cost of construction. These suggestions may not be important at the present time, but some of them may be noted, as follows:

The recommendation of Mr. Dean that none of the old material be used in the new plant seems of doubtful advisability. Some of the boilers in the old plant are comparatively new and it seems as if they might well be utilized. Mr. Dean proposes two new 75-kilowatt generators, although the city already has in operation

two generators of exactly the same size, with engine connected, which should be continued in use if in good condition. The installation of a small engine with a 25-kilowatt generator to run during the mid-day period at a cost of \$11,930 seems to be of doubtful advisability, and the probability is that the fixed charges would be very large for the benefit derived.

The brickwork problem at Deer Island is, in my opinion, not as serious as Mr. Dean anticipates. At one time I had supervision of the construction of more than 2,000 cubic yards of brickwork at Deer Island, the larger part of which was done by prison labor, and there is little doubt that ample prison labor could be obtained to build the very small amount of brickwork required for boiler foundations, if it were considered desirable to employ such labor.

As regards the type of boiler favored by Mr. Dean, some of his statements regarding the advantages of upright boilers are open to discussion, to say the least, and others do not seem essential as regards the proposed plant; and it is no discredit to Mr. Dean to say that he has the reputation of being somewhat prejudiced towards the type of boiler which he recommends, a very efficient model of which he has developed.

The proposition to furnish compressed air to the stone-cutting plant at Deer Island opens up another question than that of the decrease in cost of manufacturing the cut stone and the increase in output. The purpose of the stone yard at Deer Island is understood to be not for a successful manufacturing plant, but to furnish hard labor to the more hardened criminals there confined, and the need seems to be to furnish such labor rather than to ease the manual labor performed in the various operations. The production of a large amount of cut stone seems to be a minor consideration, and it seems to me very doubtful whether the installation of labor saving machinery would be advisable.

As regards the conclusions by Mr. Dean on page 7 of his report:

1. I differ from him in the statement that the boilers are of too old and dangerous construction, or that the lives of the inmates of the buildings, or the buildings themselves, are in any special danger.

2. In my opinion the statement that the fire risk from the boilers is great is somewhat of an exaggeration and, although there may be some risk, it is not greater than it has been during the existence of the institution, and the later structures are practically fireproof.

3. As to the correctness of his third conclusion, that a substantial saving in the amount of coal used can be made by a new plant, I have doubts and am inclined to the opinion that the loss of heat by radiation from the type of boiler proposed by Mr. Dean, combined with the loss in the long transmission lines necessary, would in a considerable measure offset any economies in the amount of fuel.

4. I agree with his fourth statement, that a substantial theoretical saving can be made in labor costs, although I think the estimate is excessive.

5. I also agree with his fifth statement that better care can be taken of steam pipes and electric wires in an underground passage, a matter, however, of comparatively small importance.

On the whole, in my opinion, the commission can safely assure His Honor that the danger at Deer Island is not so serious as to render the construction of a central plant for light, heat and power necessary at present. In my opinion it would be impossible, even if the most rigid economy were observed as to the design and construction of a new plant, to reduce the annual expenses, including interest and sinking fund charges, to so low a figure as the cost of maintaining the present plant. It is true, however, that with a new plant the fire risk would be slightly decreased and additional accommodations would be secured in some of the buildings already erected. It does not appear, however, that such in-

creased accommodations would be of any great value at the present time.

It is extremely difficult to prepare a reliable estimate for comparison of the probable cost of a new plant with the cost of the present plant, on account of the fact that detailed figures of the cost of operation and repairs of the present plant are not readily available, and on account of the fact that the plant at Deer Island is peculiar in that its duties are very light compared with those of similar plants in other localities, much of the apparatus being used only for a portion of the year. Therefore the standard figures of depreciation usually applied to such plants must be reduced to suit Deer Island conditions. I am of the opinion that an average sum of \$3,500 yearly would be ample to pay for all necessary renewals and repairs at the Deer Island plant for an indefinite term of years. It appears that the cost of depreciation, repairs and renewals on a new plant might amount to approximately $1\frac{1}{2}$ per cent. of the first cost. Assuming a basis of twenty-five years for the sinking fund charges on a new plant, an estimate prepared from the above figures, combined with the figures given by Mr. Dean in his report, shows approximately as follows:

NEW PLANT.

Cost \$181,000.

Sinking fund at 3 per cent. compounded semi-annually	\$4,804 00	
Interest at 4 per cent.	7,240 00	
Repairs and depreciation $1\frac{1}{2}$ per cent. (estimated)	2,715 00	
Wages (Mr. Dean's report)	5,217 00	
Coal (Mr. Dean's report)	12,787 00	
		<hr/>
Total yearly charges		\$32,763 00
		<hr/>
Carried forward		\$32,763 00

Brought forward \$32,763 00

PRESENT PLANT.

Wages (Mr. Dean's report)	\$8,863 00
Coal (Mr. Dean's report)	14,530 00
Repairs, renewals and depreciation (estimated).	3,500 00
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Total yearly charges	26,893 00
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Balance in favor of present plant per year	\$5,870 00
	<hr/>
Total saving for 25 years	<u>\$146,750 00</u>

It will of course be understood that the existing plant has been entirely paid for and therefore no interest or sinking fund charges need be considered.

Respectfully submitted,

GUY C. EMERSON,
Consulting Engineer.

COMMUNICATION TO THE CITY COUNCIL
IN RELATION TO THE COMPARATIVE
COST TO THE CITY OF THE TWO LOW-
EST BIDDERS FOR THE CONTRACT FOR
THE DISPOSAL OF CITY REFUSE.

Boston, December 27, 1911.

To the Honorable the City Council:

GENTLEMEN,— On December 13, 1911, you requested the Finance Commission to employ an accountant to estimate the comparative cost to the city under the bids of the lowest and next lowest bidders in the competition for the proposed ten years' contract for the disposal of city waste. The commission has employed an accountant and submits his report herewith.

The commission assumes that the City Council desired the aid of an accountant in determining how much weight, if any, should be given to the claims and promises of the second lowest bidder, and the counter claims and promises of the lowest bidder; in other words, in determining whether upon any reasonable view of the known facts either alone or in connection with the various statements of the opposing bidders, the City Council would be justified in declining to approve the award made by the Commissioner of Public Works to the Boston Development and Sanitary Company, whose bid was \$1,432,000, as against the bid for \$1,443,738 of the Boston Disposal Company, its nearest competitor.

In its desire to aid the City Council the commission endeavored to procure all the information available on the subject, and for this purpose held several hearings, which were attended by the counsel and representatives of the respective bidders, namely, the Boston Develop-

ment and Sanitary Company and the Boston Disposal Company. As a result of these hearings the commission has found that the only facts upon which the City Council can depend are these:

1. That the city would save in direct payments to the contractor \$11,738 if the Boston Development and Sanitary Company should receive the contract.

2. That the city would also own the buildings and wharf to be erected by the Boston Development and Sanitary Company on Spectacle Island and have the benefit of the dredging of the channel by that company.

3. That the city would obtain some additional advantage in the saving of interest by contracting with the Boston Development and Sanitary Company, as the city's payments in the earlier years of the contract would be considerably less than the payments to the Boston Disposal Company in the corresponding years.

That as an offset to these advantages to the city resulting from the giving of the contract to the Boston Development and Sanitary Company the city would:

4. Lose the interest for ten years on the amount paid for the necessary three acres of land.

5. Lose the taxes on said three acres of land.

All of the five factors thus enumerated have been adopted by the accountant as bases of estimate, but the correctness of the amounts allowed for items herein numbered 2, 4 and 5 will probably be disputed by one or the other of the two companies. Thus, the value of the structures on Spectacle Island that would belong to the city at the end of the contract with the Boston Development and Sanitary Company is set down as little or nothing by the counsel for the Boston Disposal Company. The engineer for the Finance Commission, Mr. Guy C. Emerson, estimates however that their value to the city as a refuse disposal plant would be not less than \$75,000 at that time, and the accountant was instructed to use that figure. Likewise, conflicting claims were made as to the amount the city would have to pay for the three acres of land and the amount it

would lose as interest and taxes thereon. The commission believed the minimum cost would be \$10,000 and the possible maximum \$50,000, and instructed the accountant to figure it on three bases, namely, \$10,000, \$30,000 and \$50,000. The loss of taxes on the land was figured on the basis of the present assessed value as being the most practical method.

Nothing was allowed for the value to the city of the control of the situation ten years hence, through its ownership of the buildings and land, as such value is incapable of present estimate. On the other hand, the commission also excluded, as incapable of present estimate, the value to the city of the lower scale of payments to the Boston Disposal Company at the end of the contract which, it was argued, would be an advantage to the city in bargaining for a renewal of the contract ten years hence. Various other considerations which were urged before the commission seemed too vague and conjectural to form the basis of a financial estimate, and hence were likewise excluded.

The accountant was instructed by the commission to accept the statements of the counsel for each company as to the relative gains and losses to the city in the taxable value of the buildings and equipment which each company said it would provide if it received the contract. The commission believes, however, that these statements, though apparently made in good faith, cannot be relied upon by the city for the following reasons:

1. Because neither company can be compelled by the city to provide buildings and equipment costing more than is necessary to provide adequate means of performing the work under the contract.
2. Because the depreciation on such property cannot be estimated accurately in advance.
3. Because it is impossible to foretell what value the assessors would fix as a basis of taxation.

Notwithstanding this uncertainty the amounts stated by the counsel for each company were taken by the

accountant in every instance except one, namely, the amount which it is said the city would lose in taxes on the building that is now used on Spectacle Island for garbage reduction and which, it is said, would be abandoned or converted to a less profitable use if the city's garbage should be treated elsewhere. This building is now taxed on \$50,000, and the commission believed that its depreciation would probably not exceed 50 per cent. Accordingly the accountant was instructed to figure a loss of taxes on \$25,000.

On the most favorable assumption to the Boston Disposal Company, namely, that the city would have to pay \$50,000 for the land furnished to the Boston Development and Sanitary Company, the city would appear to be a gainer by \$57,186.69 if it made the contract with the latter company. The city would also have the additional advantage of being able to control the situation ten years hence through its ownership of a plant upon its own land, an advantage which cannot now be estimated in dollars and cents, but which unquestionably would be great.

The commission believes that the question involved in this case is a simple one and that it should not be made complicated by a consideration of such speculative elements as the cost of land to the city, interest and taxes thereon, or the possible loss to the city of taxes on the more costly plant which the second lowest bidder states it would provide if it should receive the contract. There was no notice to the bidders in the invitation for bids or the contract and specifications that such elements would be considered. The city, without any qualification whatever, offered to furnish land to any bidder who preferred to erect his plant thereon, and it did so because it was felt that the advantage it would receive through ownership of the land would compensate it for the price it would pay for the land and the taxes thereon which it would lose through its ownership. Nor is there the slightest warrant in the notice to bidders or the contract and

specifications that the city would attempt to add to the lowest bid the amount which a higher bidder estimated as the loss to the city in taxes on the promised excess of the taxable value of the higher bidder's plant over that of the lower bidder.

The Commissioner of Public Works has made what seems to the Finance Commission a proper decision in the case, and it should be upheld; but if the City Council views the case in the light of the elements which form the basis of the accountant's estimates, the result will also be favorable to the Boston Development and Sanitary Company.

The commission recommends that the City Council approve the award of the contract to the Boston Development and Sanitary Company.

Respectfully submitted,

• THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

Boston, December 26, 1911.

HON. JOHN A. SULLIVAN,
Chairman Boston Finance Commission:

DEAR SIR,— In accordance with your request we have examined the two contracts which are now under consideration for the disposal of garbage for the City of Boston and, bearing in mind the various factors which may enter therein, would submit the following report:

In our comparison of the cost to the city of the garbage contract under the bids of the Boston Development and Sanitary Company and the Boston Disposal Company we have adopted the following method of computation:

1. Against each company is charged the annual payments by the city under the contract and various other amounts on account of taxes or interest.

2. On the excess of the total amounts thus charged in each year against one company as compared with the

other company, interest will be computed for the remainder of the contract period of ten years and such interest will be charged to the company against which such excess lies.

3. The total of said excess amounts with interest will be computed and a balance struck between the two companies as of the date of the expiration of the contract.

4. An allowance will be made for the value to the city of the buildings and other structures which will be left at Spectacle Island by the Boston Development and Sanitary Company at the termination of the contract period.

To determine the amounts to be charged against each company annually the following factors have been used:

Boston Development and Sanitary Company.

1. The amount paid by the city each year as per contract.

2. Interest for ten years on the cost of land to be furnished by the city as a site for the contractor's plant, said interest to be computed upon three different estimates of the cost of the land, namely, \$10,000, \$30,000 and \$50,000.

3. Loss of taxes on said land through city's ownership. Taxes estimated on three acres at present assessed value of seven cents per square foot, or \$9,147.50.

4. Loss of taxes on machinery in existing garbage plant on Spectacle Island which the Boston Disposal Company states will be abandoned or removed if it does not receive the contract; said machinery now assessed on \$15,000.

5. Loss of taxes on \$20,000 worth of additional machinery which the Boston Disposal Company states it will install in the existing plant at Spectacle Island if it receives the contract.

6. Loss of taxes on \$25,000 due to depreciation of the buildings now used on Spectacle Island for the reduction of garbage, in the event of the Boston Disposal Company's failure to procure the contract and the con-

sequent disuse of said buildings for garbage reduction; said buildings now taxed on \$50,000; estimated depreciation, \$25,000; loss of taxable value, \$25,000.

7. Loss of taxes on the plant and equipment which the Boston Disposal Company states it will install at East Boston if it receives the contract; estimated cost, \$500,000.

Boston Disposal Company.

1. Amount paid by the city each year as per contract.

2. Loss of taxes on machinery, estimated to cost \$160,000, which the Boston Development and Sanitary Company states it will install at Spectacle Island if it receives the contract.

3. Loss of taxes on plant, estimated to cost \$300,000, which the Boston Development and Sanitary Company states it will erect on the mainland within the limits of the City of Boston and maintain for the purpose of utilizing bottles, cans and paper.

All interest will be computed at 3.74 per cent. per annum and will be at simple interest; taxes will be computed at \$16.50 per thousand.

Computations as herein outlined are presented in detail in the tables hereto attached. From these tables you will see that on each estimate of the cost of land to be furnished by the city, as the basis of computation, the final result is in favor of the Boston Development and Sanitary Company.

Respectfully submitted,

EDWIN S. MORSE & COMPANY,

Public Accountants,

by EDWIN S. MORSE.

INDEX TO TABLES.

Table 1.— Computations for each year, with summary, on the basis of \$10,000 as estimated cost of land to be taken by the city.

Table 2.— Computations for each year, with summary, on the basis of \$30,000 as estimated cost of land to be taken by the city.

Table 3.— Computations for each year, with summary, on the basis of \$50,000 as estimated cost of land to be taken by the city.

TABLE 1.—ON A BASIS OF \$10,000 AS COST OF LAND.
AMOUNTS CHARGED AGAINST EACH COMPANY FOR EACH YEAR DURING THE TERM OF THE CONTRACT, WITH YEARLY EXCESS OR DIFFERENCE.

NUMBER AND YEAR.	AMOUNTS CHARGED TO		EXCESS.	
	Boston Development and Sanitary Company.	Boston Disposal Company.	Boston Development and Sanitary Company.	Boston Disposal Company.
1912.				
1.....	\$64,000 00	\$73,866 00		
2.....	187 00	1,320 00		
3.....	75 47	2,475 00		
4.....	123 75			
5.....	165 00			
6.....	206 25			
7.....	4,125 00			
Totals.....	\$68,882 47	\$77,661 00		\$8,778 53
1913.				
1.....	\$131,000 00	\$147,000 00		
2.....	374 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$140,764 94	\$154,650 00		\$13,885 06
1914.				
1.....	\$134,000 00	\$146,388 00		
2.....	374 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$143,764 94	\$153,978 00		\$10,213 06
1915.				
1.....	\$137,000 00	\$145,718 00		
2.....	374 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$145,764 94	\$153,308 00		\$6,543 06
1916.				
1.....	\$140,000 00	\$145,046 00		
2.....	374 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$149,764 94	\$152,636 00		\$2,871 06

TABLE 1.—Continued.

NUMBER AND YEAR.	AMOUNTS CHARGED TO		EXCESS.	
	Boston Development and Sanitary Company.	Boston Disposal Company.	Boston Development and Sanitary Company.	Boston Disposal Company.
1917.				
1.....	\$143,000 00	\$144,374 00		
2.....	374 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$152,764 94	\$151,964 00	\$800 94	
1918.				
1.....	\$146,000 00	\$143,702 00		
2.....	374 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$155,764 94	\$151,292 00	\$4,472 94	
1919.				
1.....	\$149,000 00	\$143,030 00		
2.....	374 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$158,764 94	\$150,620 00	\$8,144 94	
1920.				
1.....	\$152,000 00	\$142,359 00		
2.....	374 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$161,764 94	\$149,949 00	\$11,815 94	
1921.				
1.....	\$156,000 00	\$141,687 00		
2.....	374 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$165,764 94	\$149,277 00	\$16,487 94	
1922.				
1.....	\$80,000 00	\$70,508 00		
2.....	187 00	1,320 00		
3.....	75 47	2,475 00		
4.....	123 75			
5.....	165 00			
6.....	206 25			
7.....	4,125 00			
Totals.....	\$84,851 47	\$74,303 00	\$10,548 47	
Totals.....			\$52,302 17	\$42,290 77

SUMMARY.

YEAR.	EXCESS OF AMOUNTS CHARGED.		INTEREST ON EXCESS OF AMOUNTS CHARGED.		TIME (Years).
	Boston Development and Sanitary Company.	Boston Disposal Company.	Boston Development and Sanitary Company.	Boston Disposal Company.	
1912.....		\$8,778 53		\$3,201 09	9½
1913.....		13,885 06		4,673 71	9
1914.....		10,213 06		3,055 76	8
1915.....		6,543 06		1,712 97	7
1916.....		2,871 06		644 26	6
1917.....	\$800 94		\$149 78		5
1918.....	4,472 94		669 15		4
1919.....	8,144 94		913 86		3
1920.....	11,815 94		883 83		2
1921.....	16,487 94		616 66		1
1922.....	10,579 47		98 92		0½
Totals.....	\$52,302 17 42,290 77	\$42,290 77	\$3,332 19	\$13,267 78 3,332 19	
Net excess of amounts charged.....	\$10,011 40				
Net excess of interest.....	9,955 59			\$9,955 59	
Balance.....	\$55 81				

Estimated value of buildings, wharf, etc., to be used by the Boston Development and Sanitary Company, which will revert to the city at the termination of the contract period..... \$75,000 00
Deduct the above balance..... 55 81

Balance in favor of Boston Development and Sanitary Company \$74,944 19

TABLE 2.—ON A BASIS OF \$30,000 AS COST OF LAND.
AMOUNTS CHARGED AGAINST EACH COMPANY FOR EACH YEAR DURING THE TERM OF THE CONTRACT, WITH YEARLY EXCESS OR DIFFERENCE.

NUMBER AND YEAR.	AMOUNTS CHARGED TO		EXCESS.	
	Boston Development and Sanitary Company.	Boston Disposal Company.	Boston Development and Sanitary Company.	Boston Disposal Company.
1912.				
1.....	\$64,000 00	\$73,866 00		
2.....	561 00	1,320 00		
3.....	75 47	2,475 00		
4.....	123 75			
5.....	165 00			
6.....	206 25			
7.....	4,125 00			
Totals.....	\$69,256 47	\$77,661 00		\$8,404 53
1913.				
1.....	\$131,000 00	\$147,060 00		
2.....	1,122 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$141,512 94	\$154,650 00		\$13,137 06

TABLE 2.—Continued.

NUMBER AND YEAR.	AMOUNTS CHARGED TO		EXCESS.	
	Boston Development and Sanitary Company	Boston Disposal Company.	Boston Development and Sanitary Company.	Boston Disposal Company.
1914.				
1.....	\$134,000 00	\$142,222 00		
2.....	1,122 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$144,512 94	\$153,978 00		\$9,465 06
1915.				
1.....	\$137,000 00	\$145,718 00		
2.....	1,122 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$147,512 94	\$153,908 00		\$5,795 06
1916.				
1.....	\$140,000 00	\$145,046 00		
2.....	1,122 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$150,512 94	\$152,636 00		\$2,123 06
1917.				
1.....	\$143,000 00	\$144,374 00		
2.....	1,122 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$153,512 94	\$151,954 00	\$1,548 94	
1918.				
1.....	\$146,000 00	\$143,702 00		
2.....	1,122 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$156,512 94	\$151,292 00	\$5,220 94	
1919.				
1.....	\$149,000 00	\$143,030 00		
2.....	1,122 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$159,512 94	\$150,620 00	\$8,892 94	
1920.				
1.....	\$152,000 00	\$142,359 00		
2.....	1,122 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$162,512 94	\$149,949 00	\$12,563 94	

TABLE 2.—*Concluded.*

NUMBER AND YEAR.	AMOUNTS CHARGED TO		EXCESS.	
	Boston Development and Sanitary Company.	Boston Disposal Company.	Boston Development and Sanitary Company.	Boston Disposal Company.
1921.				
1.....	\$155,000 00	\$141,687 00		
2.....	1,122 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	830 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$166,512 94	\$149,277 00	\$17,235 94	
1922.				
1.....	\$80,000 00	\$70,508 00		
2.....	561 00	1,320 00		
3.....	78 47	2,475 00		
4.....	128 75			
5.....	165 00			
6.....	208 25			
7.....	4,125 00			
Totals.....	\$85,256 47	\$74,303 00	\$10,953 47	
Totals.....			\$56,416 17	\$88,924 77

SUMMARY.

YEAR.	EXCESS OF AMOUNTS CHARGED.		INTEREST ON EXCESS OF AMOUNTS CHARGED.		TIME (Years).
	Boston Development and Sanitary Company.	Boston Disposal Company.	Boston Development and Sanitary Company.	Boston Disposal Company.	
1912.....		\$3,404 53		\$3,004 71	9½
1913.....		13,137 06		4,421 98	9
1914.....		9,466 06		2,831 95	8
1915.....		5,795 06		1,517 15	7
1916.....		2,123 06		476 41	6
1917.....	\$1,548 94		\$289 65		5
1918.....	5,220 94		781 05		4
1919.....	8,892 94		997 79		3
1920.....	12,563 94		939 78		2
1921.....	17,235 94		644 62		1
1922.....	10,953 47		102 41		0½
Totals.....	\$56,416 17	\$38,924 77	\$3,755 30	\$12,312 15	
	38,924 77			3,755 30	
Net excess of amounts charged.....	\$17,491 40				
Net excess of interest.....	8,556 85			\$8,556 85	
Balance.....	\$8,934 55				

Estimated value of buildings, wharf, etc., to be used by the Boston Development and Sanitary Company, which will revert to the city at the termination of the contract period

\$75,000 00
8,934 55

Balance in favor of Boston Development and Sanitary Company.....

\$66,065 45

TABLE 3.—ON A BASIS OF \$50,000 AS COST OF LAND.
 AMOUNTS CHARGED AGAINST EACH COMPANY FOR EACH YEAR DURING THE TERM OF THE
 CONTRACT, WITH YEARLY EXCESS OR DIFFERENCE.

NUMBER AND YEAR.	AMOUNTS CHARGED TO		EXCESS.	
	Boston Development and Sanitary Company.	Boston Disposal Company.	Boston Development and Sanitary Company.	Boston Disposal Company.
1912.				
1.....	\$64,000 00	\$73,866 00		
2.....	935 00	1,320 00		
3.....	75 47	2,475 00		
4.....	123 75			
5.....	165 00			
6.....	206 25			
7.....	4,125 00			
Totals.....	\$69,630 47	\$77,661 00	.....	\$8,030 53
1913.				
1.....	\$131,000 00	\$147,060 00		
2.....	1,870 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$142,260 94	\$154,650 00	.....	\$12,389 06
1914.				
1.....	\$134,000 00	\$146,388 00		
2.....	1,870 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$145,260 94	\$154,978 00	.....	\$9,717 06
1915.				
1.....	\$137,000 00	\$145,718 00		
2.....	1,870 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$148,260 94	\$154,958 00	.....	\$6,697 06
1916.				
1.....	\$140,000 00	\$145,046 00		
2.....	1,870 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$151,260 94	\$152,636 00	.....	\$1,375 06
1917.				
1.....	\$143,000 00	\$144,374 00		
2.....	1,870 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$154,260 94	\$151,964 00	\$2,296 94	

TABLE 3.—Continued.

NUMBER AND YEAR.	AMOUNTS CHARGED TO		EXCESS.	
	Boston Development and Sanitary Company.	Boston Disposal Company.	Boston Development and Sanitary Company.	Boston Disposal Company.
1918.				
1.....	\$148,000 00	\$142,702 00		
2.....	1,870 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$157,260 94	\$151,292 00	\$5,968 94	
1919.				
1.....	\$149,000 00	\$143,030 00		
2.....	1,870 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$160,260 94	\$150,620 00	\$9,640 94	
1920.				
1.....	\$152,000 00	\$142,359 00		
2.....	1,870 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$163,260 94	\$149,949 00	\$13,311 94	
1921.				
1.....	\$156,000 00	\$141,687 00		
2.....	1,870 00	2,640 00		
3.....	150 94	4,950 00		
4.....	247 50			
5.....	330 00			
6.....	412 50			
7.....	8,250 00			
Totals.....	\$167,260 94	\$149,277 00	\$17,983 94	
1922.				
1.....	\$80,000 00	\$70,508 00		
2.....	935 00	1,320 00		
3.....	75 47	2,475 00		
4.....	123 75			
5.....	165 00			
6.....	206 25			
7.....	4,125 00			
Totals.....	\$85,630 47	\$74,803 00	\$11,827 47	
Totals.....			\$60,530 17	\$35,558 77

SUMMARY.

YEAR.	EXCESS OF AMOUNTS CHARGED.		INTEREST ON EXCESS OF AMOUNTS CHARGED.		Time (Years).
	Boston Development and Sanitary Company.	Boston Disposal Company.	Boston Development and Sanitary Company.	Boston Disposal Company.	
1912.....		\$8,030 53		\$2,928 33	9½
1913.....		12,389 06		4,170 15	9
1914.....		8,717 06		2,608 15	8
1915.....		5,047 06		1,321 32	7
1916.....		1,375 06		308 56	6
1917.....	\$2,296 94		\$429 53		6
1918.....	5,958 94		892 95		4
1919.....	9,640 94		1,081 71		4
1920.....	13,311 94		995 73		2
1921.....	17,983 94		672 59		1
1922.....	11,327 47		105 91		0½
Totals.....	\$60,530 17 35,558 77	\$35,558 77	\$4,178 42	\$11,386 51 4,178 42	
Net excess of amounts charged.....	\$24,971 40				
Net excess of interest	7,158 09			\$7,158 09	
Balance	\$17,813 31				

Estimated value of buildings, wharf, etc., to be used by the Boston Development and Sanitary Company, which will revert to the city at the termination of the contract period.....

\$75,000 00

Deduct the above balance

17,813 31

Balance in favor of Boston Development and Sanitary Company.....

\$57,186 69

INDEX TO TABLES 4, 5 AND 6.

We also present the matter in another form by first crediting to the Boston Development and Sanitary Company the flat difference in its favor in the contract price, \$11,738, and from that point crediting each company with the various amounts in its favor for the entire contract period, using the same number, except No. 1, for each item as in the first three tables:

Table 4.—On the basis of \$10,000 as estimated cost of land.

Table 5.—On the basis of \$30,000 as estimated cost of land.

Table 6.—On the basis of \$50,000 as estimated cost of land.

Under this form of computation the final result is the same on each basis as shown in Tables 1, 2 and 3.

TABLE 6.—ON A BASIS OF \$50,000 AS COST OF LAND COMPUTED FOR THE ENTIRE CONTRACT PERIOD.

	CREDITS To	
	Boston Disposal Company.	Boston Development and Sanitary Company.
1. Difference in contract price.....		\$11,738 00
2. Carrying cost of land estimated at \$50,000.....	\$18,700 00	
3. Taxes on land taken estimated at \$9,147.60.....	1,509 40	
4. Taxes on equipment now at Spectacle Island estimated at \$15,000 ..	2,475 00	
5. Taxes on new equipment at Spectacle Island estimated at \$20,000.....	3,300 00	
6. Taxes on one-half the present valuation of buildings now on Spectacle Island, \$25,000.	4,125 00	
7. Taxes on plant to be built in East Boston estimated at \$500,000....	82,500 00	
2. Taxes on equipment to be installed at Spectacle Island estimated at \$160,000.....		26,400 00
3. Taxes on plant to be built in Boston estimated at \$300,000.		49,500 00
Interest on excess of charges to Boston Disposal Company.		11,336 51
Interest on excess of charges to Boston Development and Sanitary Company.	4,178 42	
Estimated value of buildings, wharf, etc., to be used by the Boston Development and Sanitary Company, which will revert to the city at the termination of the contract period..		75,000 00
Total credits.....	\$116,787 82	\$173,974 51

SUMMARY.

Total credits to the Boston Development and Sanitary Company.....	\$173,974 51
Total credits to the Boston Disposal Company.....	116,787 82
Balance in favor of Boston Development and Sanitary Company.....	<u>\$57,186 69</u>

COMMUNICATION TO THE MAYOR IN RELATION TO THE LAND COURT.

Boston, January 3, 1912.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,—On October 4, 1911, Your Honor called the attention of the Finance Commission to the unequal burden imposed upon the city by the existing law for the maintenance of the Land Court, and asked the commission to consider whether a protest made to the Legislature at the coming session against the imposition of this burden would be equitable in substance and would have any prospect of effecting redress.

A tabulation made for the commission of the new cases entered in the Land Court for the year beginning November 1, 1910, and ending November 1, 1911, shows a total of 536 cases, of which 158 affected land in Suffolk County and 378 affected land in other parts of the state; that is, not quite 30 per cent. of the cases arose in Suffolk County and somewhat more than 70 per cent. arose outside Suffolk County.

The Land Court has jurisdiction throughout the Commonwealth and has its headquarters in Boston. It has a three-fold character.

1. It is a state court receiving petitions as to cases which affect the title to land in all parts of the Commonwealth.

2. It serves the purposes of a local court for Suffolk County, disposing in Boston of all cases brought in the Land Court, whether contested or uncontested, affecting the title to land situated in Suffolk County.

3. It also serves as a partial substitute for local courts in counties outside of Suffolk, disposing while sitting in Boston of uncontested cases and about 80 per cent. of contested cases brought in the Land Court

affecting the title to land situated in outside counties.

The state pays the salaries of the two judges, the recorder and all clerical assistants, also fees for the examination of titles, the expense of the Land Court's engineering department, publishing and serving citations by officers, and general miscellaneous items, including the traveling expenses of the judges. Of this the city, through its proportion of the state tax, pays a little more than one-third. As the cases affecting land in Suffolk County are about 30 per cent. of the total cases considered by the court, the difference against the city in this respect is comparatively slight, and as the proportion might vary in different years there is not likely to be any serious discrimination against the city.

The city furnishes and maintains rooms for the court in the courthouse on Pemberton square, both for the general use of the court and for local business. The latter it would have to do even if the only cases considered were those from Suffolk County. It is doubtful if the cases from outside counties materially add to the cost which the city would have to pay in any event.

Should the business of the court greatly increase and additional accommodations become necessary, this might be a serious matter, but at present it is not so.

The city pays for stationery; postage, including registration fees for notices in all cases, for all counties; printed blanks, telephone service and incidental office supplies; also for court officers and the fees for auditors in cases arising in Suffolk County. The total cost of these various items in 1910-11 amounted to \$2,551.65, and in the current year to about \$4,500. It is difficult to determine what proportion of this cost is for the Commonwealth, what for outside cases, and what for Suffolk County cases. A certain cost for Suffolk County would be inevitable; assuming it to be one-half, the amount involved becomes very small.

The Finance Commission believes that the plan upon which the division of expenses is made is ill-

considered and indefensible; there is no reason why Boston should be obliged to pay any part of the cost of litigation affecting land in outside counties, but this method is not confined to the Land Court. It extends to all the judicial machinery of the Commonwealth. The habit of resorting to Boston for trial of controversies which ought to be decided locally is growing.

The commission believes that the question of the inequality of the city's burden caused by the maintenance of the Land Court is too insignificant to be the subject of a protest to the Legislature; but it also believes that the whole matter of court expenditures, both civil and criminal, and the proper division thereof as between the state and the several counties, should be carefully considered. It believes that theoretically all the expenses for the enforcement of the laws of the Commonwealth might properly be paid in the first instance by the Commonwealth and the burden divided through the state tax. How this would work practically, and whether it would increase or decrease the amount paid by Boston, the commission has no means of knowing. This could only be determined after a most careful study and consideration by a special commission to be appointed by the Governor, which should have before it all the facts as to all the courts in all the counties.

The commission recommends that Your Honor, after consultation with and under the advice of the Corporation Counsel, petition the Legislature for the legislation necessary to establish such a commission.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

PART III.

A CHRONOLOGY OF THE BOSTON PUBLIC SCHOOLS.

NOTE.

This chronology originally was prepared for the Boston Finance Commission by George A. O. Ernst to assist in the preparation by the commission of its report upon the Boston Public Schools.

It contains a reference to all statutes, whether general or special, which affect the Boston schools; and to a variety of matters which show how the schools have developed. It goes into greater detail as to the work of the last six years than as to that of the early years because the present situation in the schools is the real purpose of the study, and the past is chiefly of value as it explains the present. Enough, however, is given to show the line of growth and the fact that there is hardly one of the great accomplishments of the present which has not proved its worth through a long persistent struggle.

Thus the unification of the school system, foreshadowed in 1830 by Chief Justice Shaw in his attempt to do away with the grotesque "double headed system"; urged by Horace Mann soon after the establishment of the State Board of Education in 1837; bitterly resisted for many years by members of the School Committee, of the Primary School Committee and of the teaching force, is now almost universally accepted, and even its critics would be unwilling to go back to the old days of decentralization.

Many subjects opposed at first as fads, frills and fancies have through their worth obtained permanent places in the school system. Drawing, "permitted" in 1827, an "ornamental branch" in 1848, "compulsory" in 1870, is the foundation stone of our industrial schools. Sewing was taught as early as 1818, but in 1876 an opinion was obtained from the City Solicitor that spending the city's money for the purpose was illegal.

It, however, met such a popular need that it was at once legalized by the Legislature. Physical training, first recognized officially in 1833, has had to fight its way to full recognition, and in some of its forms is still regarded as a "fad" or "frill."

The much discussed change from nine to eight grades in the elementary schools has sometimes been said to have been imported from a western city together with the present superintendent. As a matter of fact it had been favorably considered much earlier. In 1894 the experiment of parallel courses of seven and nine years (four and six years in the grammar schools) was tried. In 1900, two years before the present superintendent came to Boston as a supervisor, the School Committee, after a careful report and upon the favorable recommendation of the Board of Supervisors, instructed that Board to prepare a revised course of study providing for eight grades instead of nine. It was, however, not adopted until 1906.

The great wrong to teachers and pupils of excessively large classes has long been felt. In 1880 (when the standard class was 56) it was pointed out that there were sometimes 70 pupils in a class, and the duty of the School Committee to reduce the number was forcibly urged; but not until 1900 (a delay of 20 years) was the standard reduced from 56 to 50. In 1906 this vital problem was taken up seriously, and the quota of pupils to teachers has since been steadily reduced to 44, and there are plans for a further reduction.

These are typical instances of what may be found in the chronology, and show the purpose for which it was made, and the manner in which it is to be used.

A CHRONOLOGY OF THE BOSTON PUBLIC SCHOOLS.

Abbreviations: W. A.—Wightman's Annals of the Primary Schools.
S. D.—School Document. S. M.—School Minutes.

- 1635.—Latin School, for boys only, established as the first public school in Boston. This was a year before the foundation of Harvard College and more than three years before that institution was opened. (S. D. 3 of 1905, p. 56.) It is probable that the elementary as well as the higher branches of education were taught, but its main purpose soon became the fitting of young men for college. (W. A., p. 1; S. D. 18 of 1888, p. 52; S. D. 3 of 1903, p. 9.)
- 1641.—The town voted that "Deare Island shall be improved for the maintanance of a Free Schoole for the Towne" and in 1649 Long and Spectacle Islands were leased, the rental to be for the use of the school. (W. A., p. 2.)
- 1642.—Selectmen required by law to "have a vigilant eye over their brethren and neighbors; to see that none of them shall suffer so much barbarism in any of their families as not to endeavor to teach their children and apprentices so much learning as may enable them perfectly to read the English tongue and obtain a knowledge of the capital laws." (Laws and Liberties, p. 16; S. D. 25 of 1880, p. 3.)
- 1647.—Every township of 50 householders required to appoint a teacher of children "to write and read," and of 100 householders to "set up a grammar schoole the master thereof being able to instruct youth so farr as they may be fitted for the university." (S. D. 25 of 1880, p. 4.)
- 1682.—Schools established under vote at town meeting held December 18, 1682, "for the teachinge of children to write and Cypher" under writing masters (S. D. 18 of 1888, p. 34), open to boys only; "the beginning of the common schools in Boston." (S. D. 3 of 1903, p. 14.)
- 1683.—Every town of 500 families or householders required to "set up and maintain two grammar schools and two writing schools." (Colonial Laws, p. 305.)
- 1692.—Province Laws require towns of 50 householders to provide "a schoolmaster to teach children and youth to read and write," and of 100 householders a grammar school to be conducted by a "discreet person of good conversation well instructed in the tongues." (Prov. Laws, 1692-93, Chap. 26.)
- 1701.—Grammar masters to be approved by ministers by certificate under their hands. (Prov. Laws 1701-2, Chap. 10.)

- 1740.— Grammar masters as distinguished from writing masters appointed in Boston to teach reading, grammar, geography and other higher studies, beginning the "double-headed system" of divided authority between writing masters and grammar masters. The children in each school were divided into two parts, the one attending in the forenoon in the grammar master's room, which was usually upstairs, and in the afternoon in the writing master's room, which was usually downstairs; while the other part attended in the reverse order. (S. D. 3 of 1903, p. 15.)
- 1751.— A committee reported to the town that "the charge of supporting the several Publick Schools amounted the last year to more than one-third part of the whole sum drawn for by the selectmen." (S. D. 18 of 1888, p. 37.)
- 1762.— The town voted that the treasurer be directed to borrow 1,500 pounds for the payment of the schoolmasters' salaries then due (S. D. 18 of 1888, p. 38), an early instance of the payment of current expenses from loans.
- 1789.— Every town or district of 50, 100 or 150 householders required to provide schoolmasters of good morals for varying school terms "to teach children to read & write & to instruct them in the english language as well as in arithmetic, orthography and decent behavior," and of 200 families or householders to provide "a grammar schoolmaster of good morals well instructed in the latin, greek and english languages," no youth to be sent to such schools, without permission from the Selectmen, "unless they shall have learned in some other school or in some other way to read the english language by spelling the same." (Acts of 1789, Chap. 19.)
- School Committee chosen, consisting of Selectmen and one member from each ward. (W. A., p. 7; S. D. 18 of 1888, p. 7.)
- Girls first admitted to the Boston public schools, but only from 20th April to 20th October in each year. "This was doubtless because many of the boys had work to do in the summer season, and so left room in the schools for the girls." (S. D. 3 of 1903, p. 14.) There was a thorough reorganization of the school system; the age limit of admission to the reading and writing schools was fixed at seven, pupils to be allowed to continue until the age of fourteen. (S. D. 18 of 1888, p. 39.)
- 1793.— Franklin medals to boys only first awarded, though dated 1792. (W. A., p. 8.)
- 1812.— Appropriation "towards maintaining a school for African children." Prior to this time, colored children who so desired attended white schools. (City Doc. 23 of 1846, p. 15.)
- 1816.— Sunday schools (private) first established in Boston, the object being to teach children to read and write as well as to give religious instruction. This brought out the fact that a large proportion of children could neither read nor write, and to them therefore under the law of 1789, quoted above, the doors of the

public schools were shut. This was one of the causes which led to the establishment of primary schools. (W. A., p. 12; S. D. 18 of 1888, p. 13.)

1818.—Primary schools first established in Boston although opposed by the Selectmen and School Committee (W. A., p. 35), for children between four and seven years of age under a Primary School Committee of 36 members appointed by, but with authority independent of, the regular School Committee (W. A., p. 72); the origin of the distinction long recognized between primary and grammar schools (S. D. 3 of 1902, p. 45) which was not until 1906 wholly abandoned. (S. D. 9 of 1906, p. 28.) In these schools the girls were taught knitting or sewing. (W. A., p. 44.)

1820.—First "intermediate school" established for illiterate children over seven years of age, who were too old to be admitted to the primary schools, and under the law of 1789, because of their illiteracy, could not be admitted to the grammar schools. Investigation showed that there were a large number of such children. (W. A., p. 53.)

1821.—English Classical (now High) School established for boys who were to be prepared not for the university but for various mercantile and mechanical pursuits. In later years it has become important as a fitting school for the higher institutions, like the Massachusetts Institute of Technology and Harvard College. (S. D. 3 of 1903, pp. 39, 42.)

City medals for girls instituted as an offset to the Franklin medals for boys; abolished in 1847; restored in 1848; but finally given up, and diplomas substituted. (S. D. 18 of 1888, p. 42.)

1822.—Under the city charter a school committee established consisting of the Mayor, aldermen and one member elected from each ward, 25 members in all. (Acts of 1821, Chap. 110.)

1826.—High School for Girls established, but the number of girls applying was so great that it was given up in 1828; in other words, it was too successful. (S. D. 18 of 1888, p. 47; S. D. 3 of 1903, p. 43.)

Text-books required by law to be furnished to pupils "at such prices as merely to reimburse to the town the expense of procuring the same"; free to those unable to pay. Teachers must obtain from School Committee a certificate of fitness to instruct. (Acts of 1825-26, Chap. 170.)

1827.—In addition to studies previously required, towns of 500 families required to provide a master competent to teach history of the United States, book-keeping by single entry, geometry, surveying and algebra, and where there were 4,000 inhabitants general history, rhetoric and logic. No books to be used or purchased "calculated to favor any particular religious sect or tenet." Provision as to teachers' certificate of qualifications. (Acts of 1826-27, Chap. 143.)

1827.—Drawing introduced as a "permitted" subject in the English High School. (S. D. 3 of 1903, p. 97.)

1828.—High School for Girls discontinued, but girls admitted to grammar and writing schools throughout the year. (S. D. 18 of 1888, p. 48.)

1830.—"Infant Schools," forerunners of the kindergarten, having been established by private societies and individuals, were considered adversely by the Primary School Committee. (W. A., p. 123; S. D. 3 of 1903, p. 30.)

Chief Justice Shaw, then a member of the School Committee, attacked the "double-headed system" and urged the "single-headed system" (the supremacy of the grammar masters), but without immediate effect, the change (although tried in 1836 in two schools) not being permanently adopted until 1847. "With all the sound arguments of reason and experience on its side, a campaign of no less than seventeen years was necessary to bring its merit into general recognition. Like many another school reform it was seen to be inimical to what the school-masters (*i. e.*, the writing masters) were pleased to regard as their vested rights and interests" (S. D. 3 of 1903, p. 16.)

Chief Justice Shaw also advocated, but more successfully, the education of the sexes in separate school buildings. This is the origin of separate schools in the older parts of Boston. (S. D. 3 of 1903, p. 18.)

Attempt to introduce music as a regular study in the public schools. (S. D. 15 of 1888, p. 3.)

1833.—Interesting exhibition of conservatism in resisting introduction into the primary schools of books, maps, globes, or anything outside the established curriculum, the Board refusing not on sanitary grounds but from pure conservatism a request of a member to introduce experimentally at his own expense a black-board, slates and pencils. (W. A., p. 136 *et seq.*) Public sentiment was strongly in favor of the innovations and the Board later provided slates and pencils. (W. A., p. 149.) Black-boards were also subsequently provided, and there was a gradual increase in educational helps. (S. D. 3 of 1903, p. 30.)

First official action as to physical education in primary schools. (S. D. 22 of 1891, p. 26; W. A., p. 149.)

Children over eight years of age admitted into the grammar schools, although not qualified by their attainments, provided their parents or guardians obtained permission of the sub-committee in charge. (W. A., p. 148.)

1834.—Act reorganizing School Committee to consist of Mayor and twenty members elected at large, ten each year for two years (Acts of 1834, Chap. 158), not accepted by the people.

1835.—School Committee reorganized, to consist of Mayor, president of Common Council, and two members elected from each ward, 26 members in all. (Acts of 1835, Chap. 128.)

- 1835.— Sewing, which had been taught in primary schools, authorized in writing schools. (S. D. 24 of 1881, p. 3; S. D. 18 of 1888, p. 72.)
- 1836.— Drawing made "obligatory" in the English High School, but no teacher of drawing appointed until 1853. (S. D. 3 of 1903, p. 97.)
- 1837.— State Board of Education established (Acts of 1837, Chap. 241), and Horace Mann elected Secretary. (S. D. 18 of 1888, p. 26.)
- 1838.— Beginning of the controversies (W. A., p. 175) which ended with the abolition of the Primary School Committee in 1855. (W. A., p. 259.) The Primary Board in principle and practice was in direct antagonism (*id.*, p. 277) to the doctrine of centralization advocated by Horace Mann, who urged making the educational system a "unit" and placing it under the supervision of a Superintendent of Public Schools (*id.*, p. 266). The primary system was an extreme illustration of decentralization, each primary teacher with her school being an independent entity. (S. D. 3 of 1902, p. 45.)
 School Committees to make annual reports; and to select and make contracts with teachers. (Acts of 1838, Chap. 105.)
 City Council passed order authorizing the Primary School Committee to admit children over seven who were not qualified for admission to the grammar schools; development of "Intermediate Schools." (W. A., p. 173; see also *id.*, p. 55.)
 Music (singing) introduced into schools. (S. D. 15 of 1888, p. 4; S. D. 3 of 1903, p. 89.)
- 1841.— Brighton High School established. (S. D. 18 of 1888, p. 50.)
- 1844.— School Committee authorized to dismiss any teacher from the service, compensation thereupon immediately to cease. (Acts of 1844, Chap. 32.)
 Bitter attack upon Horace Mann and his famous "Seventh Report" by "31 Boston Grammar Masters." (Martin's Evolution of the Massachusetts Public School System, p. 181. For titles of pamphlets in the controversy which followed see Barnard's Journal of Education, Vol. 5, p. 651.)
- 1845.— Severe comment by Committee on Examinations upon examination papers written by grammar pupils of this year. (City Doc. 26 of 1845.)
 Colored citizens petition for the abolition of special schools for colored children — majority and minority reports thereon. (City Doc. 23 of 1846.) Primary School Committee voted against the change. (W. A., pp. 209, 214.)
 Primary School Committee voted, 46 to 18, against establishing position of Superintendent. (W. A., p. 211.)
- 1847.— Appropriation of money authorized for schools to teach "adults reading, writing, English grammar, arithmetic and geography." (Acts of 1847, Chap. 137.)

1847.—John D. Philbrick appointed master of the Quincy School, a substantial victory of the "single-headed system," which in a few years thereafter became universal in Boston, the writing master gradually disappearing, authority being given to the grammar master, an important step towards unification. As an illustration of the difficulty of dispensing with superfluous employees it may be noted that one of the writing masters drew pay until his death in 1877, at the age of 96, although for many years he rendered no service, but was annually appointed as an "assistant teacher." (S. D. 3 of 1903, p. 17; S. M. of 1876, p. 200.)

Report of committee in favor of free text-books to all pupils. (Doc. 38 of 1847.)

1848.—Drawing placed on the list of grammar school studies, but treated as an "ornamental branch," and little done with it until 1871. (S. D. 3 of 1903, p. 97.)

Charlestown High School established. (S. D. 18 of 1888, p. 50.)

1849.—Eliot (now West Roxbury) High School established. (S. D. 18 of 1888, p. 50.)

1850.—Public schools to be supplied with dictionaries at state expense. (Resolves of 1850, Chap. 99.)

Physiology and hygiene authorized to be taught in the public schools and all teachers required to be examined thereon. (Acts of 1850, Chap. 229.)

First truant law enacted in Massachusetts for children between six and fifteen years of age. (Acts of 1850, Chap. 294.) (For subsequent truant legislation see S. D. 25 of 1880.)

1851.—Office of Superintendent established; Nathan Bishop elected as first Superintendent of the Boston Public Schools; held office until 1856. (S. D. 3 of 1903, p. 58; W. A., p. 266 *et seq.*)

1852.—Compulsory school age to be "between the ages of eight and fourteen years." (Acts of 1852, Chap. 240.)

Normal School established for the purpose of preparing young women to become teachers. (S. D. 4 of 1895, p. 297.)

Roxbury High School and Dorchester High School established. (S. D. 18 of 1888, pp. 48 and 50.)

1853.—Rule established that "every scholar shall have daily in the forenoon and afternoon some kind of physical or gymnastic exercise." (S. D. 22 of 1891, p. 27.)

1854.—School Committee reorganized to consist of Mayor, president of Common Council, and six elected from each ward, in all 74 members. (Acts of 1854, Chap. 448, Sect. 53.)

General law authorizing cities and towns to establish position of Superintendent of Schools. (Acts of 1854, Chap. 314.) Boston had already appointed a Superintendent in 1851.

High School courses for girls introduced in the Normal School and name changed to the Girls' High and Normal School. (S. D. 4 of 1895, p. 297.)

1854.— High School for Girls established in Roxbury. (S. D. 18 of 1888, p. 49.)

Sewing, heretofore "authorized," now required to be taught in 4th class of the Grammar Schools for Girls. (S. D. 24 of 1881, p. 4.)

1855.— Primary School Committee (established in 1818), which had grown to 196 members, abolished (by the charter amendments of 1854) and jurisdiction over the primary schools transferred to regular School Committee, but the distinction between primary and grammar schools and the independence of primary schools, through primary sub-committees, continued. (W. A., p. 264; S. D. 18 of 1888, p. 29; S. D. 3 of 1903, p. 34 *et seq.*)

Cities and towns authorized to furnish school books and stationery at their own expense. (Acts of 1855, Chap. 436 — repealed in 1857; Acts of 1857, Chap. 206.)

Daily reading of some portion of the Bible in the common English version required. (Acts of 1855, Chap. 410.)

Distinction on account of race, color or religion in admission to public schools forbidden. (Acts of 1855, Chap. 256.)

Amendment to the Constitution forbidding school moneys to be appropriated for sectarian schools. (Article XVIII.)

Compulsory vaccination law. (Acts of 1855, Chap. 414.)

1856.— John D. Philbrick elected Superintendent; continued in office except for a brief interval until 1878. (S. D. 3 of 1903, p. 19.)

1857.— Schools for persons over fifteen years of age authorized, to be held either in the day or evening, the School Committee to determine subjects to be taught. (Acts of 1857, Chap. 189.)

Teachers must be competent to teach (in addition to previously required studies) algebra and the history of the United States in towns of 50 or more families; natural philosophy, chemistry, botany, and civil polity of the Commonwealth and the United States, in towns of 500 families; and French, astronomy, geology, intellectual and moral science, and political economy in towns of 4,000 inhabitants. (Acts of 1857, Chap. 206.)

Children between the ages of five and fifteen years entitled to attend school where they reside, but nonresident parent or guardian must pay for the tuition a sum equal to the average expense per scholar for such school. (Acts of 1857, Chap. 132.)

Superintendent Philbrick recommended classification in primary schools, and that each pupil be supplied with a single desk and chair, and also with a slate; adopted and carried into effect. Prior to this, each primary teacher had charge of six classes, and carried the pupils under her care through the whole preparation for the grammar school. (S. D. 18 of 1888, p. 30.)

1858.— Standing Committee on Music established, and special instructors appointed. (For history of music in the schools see School Committee Report of 1858, p. 45; S. D. 3 of 1903, p. 89.)

- 1859.— School books to be furnished to scholars at net cost; when a change is made the School Committee shall furnish the substituted book to each pupil requiring it at the expense of the city or town. (Acts of 1859, Chap. 93.)
 School Committees to select and contract with teachers; require satisfactory evidence of the good moral character of all instructors, and ascertain by personal examination their qualifications for teaching and capacity for the government of schools. (Acts of 1859, Chap. 60; see Rev. St., Chap. 23, Sect. 13; Acts of 1838, Chap. 105.)
- 1860.— Special committee appointed to consider the subject of physical training. (S. D. 7 of 1890, p. 24.)
- 1861.— Minimum age of admission to primary schools raised from four to five years. (S. D. 18 of 1888, p. 31.)
 Roxbury High Schools for boys and girls united into single school. (S. D. 18 of 1888, p. 49.)
- 1862.— Agriculture authorized to be taught by lectures or otherwise in the public schools. (Acts of 1862, Chap. 7.)
 Bible to be read daily without note or comment; no scholar to be required to read from any particular version whose parent or guardian declares he has conscientious scruples against it; no school book to be purchased or used calculated to favor the tenets of any particular sect of Christians. (Acts of 1862, Chap. 57.)
- 1863.— State Board of Education directed by Legislature to report concerning the introduction in schools of military drill. (Resolves of 1863, Chap. 66.)
- 1864.— Military drill introduced, although the Legislature refused to pass bills authorizing it. (S. D. 22 of 1891, p. 41.)
 Instruction in physical culture introduced under orders passed by the School Committee which have been called the "great charter of Physical Training in the Boston schools." (S. D. 18 of 1888, p. 76; S. D. 22 of 1891, p. 43.) The latter document contains an elaborate study of physical training and of its history in Boston.
- 1866.— Masters of grammar schools given duties of principal, both in the grammar and primary schools of their respective districts. This attempt at unification met with opposition from some of the masters who were "incompetent or unwilling to exercise a helpful control over the methods of primary teaching"; and from many of the teachers who "were slow to co-operate either with the master or with each other." It continued until 1879, when jurisdiction over primary schools was temporarily taken away from the grammar masters but restored in 1882. (S. D. 18 of 1888, p. 31; see also S. D. 3 of 1902, p. 45.)
- 1867.— Schools for licensed minors established. (S. D. 19 of 1885, p. 22.)
 Corporal punishment considered. (Annual Report of 1868, p. 197; see also S. M. of 1902, p. 501; S. D. 14 of 1903, p. 6.)
- 1868.— First regular appropriation in Boston for evening schools, under authority of Acts of 1857, Chap. 189, a delay of eleven years. (S. D. 3 of 1903, p. 72.)

- 1868.—Roxbury annexed and schools taken over, including Roxbury High School. (S. D. 3 of 1903, p. 50.)
 Diplomas first awarded to graduates. (S. D. 18 of 1888, p. 43.)
- 1869.—Evening High School first opened. (S. D. 3 of 1903, p. 73.)
 Horace Mann School for the Deaf first opened. (S. D. 3 of 1903, p. 66.)
- 1870.—Teaching drawing in public schools and free instruction in industrial or mechanical drawing to persons over fifteen years of age in day or evening schools made compulsory in towns or cities having more than 10,000 inhabitants. (Acts of 1870, Chap. 248.)
 Free Evening Industrial Drawing School first opened. (S. D. 3 of 1903, p. 75; S. D. 3 of 1905.)
 Dorchester annexed and schools taken over, including Dorchester High School. (S. D. 3 of 1903, p. 50.)
 First kindergarten established, believed to be the first public free kindergarten in the world. (S. D. 2 of 1888, p. 18.)
 Change from four grammar grades to six, making with three primary grades nine grades below the high schools; beginning of the nine-grade system in Boston. (S. D. 3 of 1904, p. 49.)
- 1871.—Drawing first taken seriously in the schools through the movement for industrial art education. (S. D. 3 of 1903, p. 97.)
- 1872.—Industrial schools authorized; the School Committee to "prescribe the arts, trades and occupations to be taught," and to have the management thereof. (Acts of 1872, Chap. 86.)
 Normal School and Girls' High School separated and each established as an independent institution. (S. D. 18 of 1888, p. 48.)
- 1873.—Truant officers first placed under authority of School Committee. (Acts of 1873, Chap. 262.)
 Age of compulsory attendance decreased from fourteen to twelve years, but term of schooling lengthened. (Acts of 1873, Chap. 279.)
 School books may be loaned to pupils. (Acts of 1873, Chap. 106.)
- 1874.—Age limit restored from twelve to fourteen years for compulsory attendance at school. (Acts of 1874, Chap. 233.)
 Charlestown, Brighton and West Roxbury annexed and schools taken over, including high schools. (S. D. 3 of 1903, p. 50.)
 The legality of using the city's money for the Normal School having been questioned (S. D. 3 of 1903, p. 59), its establishment was legalized by the Legislature. (Acts of 1874, Chap. 167.)
- 1875.—School Committee, having by annexation and the city's growth increased to 116 members, was reorganized and the number reduced to 25 (beginning January, 1876), to consist of the Mayor and 24 members elected at large in groups of 8 each, serving three years. (Acts of 1875, Chap. 241; S. D. 18 of 1888, p. 8.)
 Power given School Committee to appoint janitors. (Acts of 1875, Chap. 241.)
 Power given School Committee to decide as to necessity and location of school buildings and alterations costing over \$1,000, but appropriations to be made by and work done through City Council. (Acts of 1875, Chap. 241.)

- 1875.— School Committee to elect a Superintendent and Board of not exceeding six Supervisors for terms of two years, a Secretary and Auditing Clerk. (Acts of 1875, Chap. 241.)
- 1876.— Under the new School Committee, the rules and regulations were revised, and a large apparent power was given to the Superintendent and Supervisors, but real power was retained in sub-committees. (Rules and Regulations of 1876; S. D. 18 of 1888, p. 30; S. D. 4 of 1896, p. 85.)
- The fitness of candidates for the teaching force was, under the rules, to be determined by examinations to be held by the Supervisors by whom "Certificates of Qualification" were to be granted. (Rules and Regulations of 1876; S. D. 5 of 1889, p. 25.)
- Law as to change of text-books amended to require a two-thirds vote of the entire committee. (Acts of 1876, Chap. 47.)
- City Solicitor having ruled that the city's money could not legally be spent in the teaching of sewing (S. D. 18 of 1888, p. 73) (although it had been taught for many years), it was legalized by the Legislature. (Acts of 1876, Chap. 3.)
- Establishing office of Medical Inspector of Schools considered, but City Solicitor advised that the committee had no legal right to spend money for the purpose. (S. M. of 1876, p. 214; S. M. of 1877, p. 51; S. D. 20 of 1889, p. 5.)
- 1877.— School Committee incorporated with authority to hold property in trust. (Acts of 1877, Chap. 53.)
- A truant officer with the title of Superintendent of Licensed Minors assigned to schools for licensed minors. (S. D. 19 of 1885, p. 22.)
- 1878.— Samuel Eliot elected Superintendent. (S. M. of 1878, p. 12.)
- Remained in office until 1880.
- East Boston High School established. (S. D. 3 of 1903, p. 52.)
- Girls' Latin School established for the express purpose of fitting girls for college. (S. D. 3 of 1903, p. 53.)
- Stationery may be supplied free. (Acts of 1878, Chap. 23.)
- Nautical schools authorized by law. (Acts of 1878, Chap. 159.)
- 1879.— Supervision of primary schools taken from grammar masters and placed in charge of Supervisors. (S. D. 10 of 1879; S. D. 4 of 1880, pp. 3, 62; S. D. 18 of 1888, p. 31.)
- Elaborate reports on proposed revision of the school system. (S. D. 4 to 12 of 1879.)
- Report on Industrial Education, with especial reference to the establishment of a Free Industrial Institute for the education of mechanics, consisting of a developing school and school shops, recommending its establishment. (S. D. 25 of 1879.)
- Kindergarten and intermediate schools discontinued. (S. D. 30 of 1879, p. 9.)
- Pensions for teachers suggested tentatively. (S. D. 30 of 1879, p. 37; see also S. D. 5 of 1880, p. 6; S. D. 10 of 1880.)
- Women authorized to vote for School Committee. (Acts of 1879, Chap. 223.)
- 1880.— Law amended so that no pupil shall be required to take any personal part in reading the Bible whose parent or guardian informs the teacher that he has conscientious scruples against it. (Acts of 1880, Chap. 176.)

1880.—Committee on primary school instruction reported as to excessive number of children in various classes, sometimes as high as seventy, and said "forty children are all that one woman can attend to properly," adding that it is "the first duty of the Board to remedy this great wrong." (S. D. 1 of 1880, p. 5.) At this time fifty-six pupils to a teacher was the standard, with thirty-five in ungraded classes. (Rules and Regulations for 1879, section 216.)

City Solicitor having ruled (S. M. of 1880, p. 122) that an Instructor in Hygiene might be appointed, but that he could not have duties of medical inspector, a controversy in the committee arose and not until 1885 was the position filled. (S. D. 20 of 1889.)

Report of Committee on Truant Officers giving an historical sketch of this branch of the school system. (S. D. 25 of 1880.)

Edwin P. Seaver elected Superintendent; remained in office for twenty-four years, until 1904. (S. D. 27 of 1880, p. 12; S. M. of 1880, p. 201; S. M. of 1904, p. 302.) In his first annual report he urged "a unity of purpose and a unity of method which come only from proper supervision" and "efficient co-operation." (S. D. 5 of 1881, p. 18.)

1881.—Calisthenics, gymnastics and military drill authorized by statute, and prior action of school committees in causing them to be taught ratified and confirmed. This legalized what had long been done in Boston. (Acts of 1881, Chap. 193.)

Movement to abolish suburban high schools; majority and minority reports thereon; failed because of public protest. (S. D. 8 of 1881; S. D. 26 of 1881, p. 11; S. M. of 1881, p. 132.)

A system of supplementary reading introduced. (S. D. 7 of 1881; S. D. 4 of 1882, p. 51; S. D. 3 of 1902, p. 36.)

Experiment in industrial instruction through a "carpenter's class" in the Dwight School. (S. D. 15 of 1882; S. D. 4 of 1883, p. 39.)

Historical account of sewing in the schools. (S. D. 24 of 1881, p. 8.)

1882.—Supervision of primary schools taken from the Supervisors and restored to grammar masters, the value of unification being now more fully recognized. (S. D. 2 of 1882; S. D. 4 of 1882, p. 18; S. D. 21 of 1882, p. 17; S. D. 3 of 1903, p. 37.)

The City Solicitor having ruled that the city could not legally provide instruction in the Normal School for the benefit of teachers in the service of the city (S. D. 4 of 1882, p. 46), the Legislature gave authority. (Acts of 1882, Chap. 136.)

1883.—Evening schools compulsory in towns and cities of 10,000 or more inhabitants "for the instruction of persons over 12 years of age in orthography, reading, writing, geography, arithmetic, drawing, history of the United States, and good behavior," and such other subjects as the School Committee shall deem expedient. (Acts of 1883, Chap. 174.)

- 1883.— Importance of industrial education discussed by Superintendent Seaver, outlining a central school which later was realized in the Mechanic Arts High School. A Committee on Industrial Education reported in favor of manual training as a part of the course of instruction in the public schools. At this early day the modern distinction between manual training and industrial education does not appear to have been accepted. (S. D. 4 of 1883, p. 34; S. D. 19 of 1883; S. D. 15 of 1889; S. D. 18 of 1897, p. 33; S. D. 4 of 1901, p. 34.)
- 1884.— Text-books and other school supplies required to be furnished free to all pupils. (Acts of 1884, Chap. 103; S. D. 19 of 1884, p. 12.)
- Manual training first introduced, under provisions of Acts of 1884, Chap. 69, authorizing instruction in the "elementary use of hand tools" which were to be bought and loaned free to pupils. Rooms in the basement of the Latin School building were fitted with tools and benches, and a class of 200 boys from the grammar schools was taught carpentry and cabinet making. (S. D. 19 of 1884, p. 18.)
- Pupils forbidden to attend public schools while or within two weeks after any member of the household is sick of small-pox, diphtheria, or scarlet fever. (Acts of 1884, Chap. 64; see also Acts of 1885, Chap. 198.)
- Permanent corps of substitute teachers suggested. (S. D. 4 of 1884, p. 12; see also S. D. 4 of 1895, p. 84.)
- Movement to reduce number of Supervisors from six to four unsuccessful. (S. D. 3 of 1884; S. M. of 1884, p. 53.)
- Rules amended to increase the executive powers of the Superintendent. (S. M. of 1884, p. 171.)
- 1885.— Mayor no longer a member of the School Committee, but he is given a qualified veto on orders, resolutions or votes of the School Committee involving the expenditure of money. (Acts of 1885, Chap. 266, Sect. 10.)
- Teaching of physiology and hygiene, including effect of alcoholic drinks, etc., made compulsory in the public schools. (Acts of 1885, Chap. 332.)
- Office of Instructor in Hygiene established. (S. M. of 1885, pp. 116, 146; S. D. 8 of 1886; S. D. 20 of 1889.)
- State granted land on Newbury street to city for Horace Mann School for the Deaf. (Acts of 1885, Chap. 201.) New building erected thereon and opened in 1890. (S. D. 3 of 1903, p. 67.)
- School Committee authorized to provide at expense of the city apparatus, books of reference and other means of illustration. (Acts of 1885, Chap. 161.)
- The City Solicitor having ruled that attendance could not be required outside the regular schools, permission was granted to children from the Eliot and Hancock schools, whose parents or guardians so request, to attend on probation the North End Industrial Home two hours a week for manual training (S. D. 3 of 1885; S. M. of 1885, p. 90), and girls from Winthrop.

- Franklin, Everett, Hyde and Wells schools authorized to attend the Tennyson street school of cookery. (S. D. 19 of 1885, p. 28.)
- 1885.—Schools for licensed minors discontinued, and position of Superintendent of Licensed Minors abolished, pupils being transferred to ungraded classes. (S. D. 19 of 1885, p. 23.)
- 1886.—First schools of cookery opened at city's expense. (S. M. of 1886, pp. 124, 184; S. D. 4 of 1895, p. 281; S. D. 3 of 1903, p. 107.)
 Parental School for truants authorized (Acts of 1886, Chap. 282), but in spite of repeated requests from School Committee not established by City Council until 1895 (S. D. 23 of 1890, p. 38; S. D. 20 of 1891; S. D. 3 of 1903, p. 85), truants in the meanwhile being sent to Deer Island. (S. D. 4 of 1885, p. 67.)
 Election of teachers on tenure authorized. (Acts of 1886, Chap. 313.) Adopted in Boston in 1889. (S. M. of 1889, pp. 67, 77.)
 Evening high school required by law to be established in cities of 50,000 inhabitants if requested by 50 qualified residents. (Acts of 1886, Chap. 236.)
- 1887.—Interesting account of the history of vacations, holidays, etc., in the schools of Boston. (S. D. 17 of 1887, p. 27.)
- 1888.—Kindergartens for children $3\frac{1}{2}$ years old again taken into the school system. (S. D. 18 of 1888, p. 10.)
 Course in Normal School extended to $1\frac{1}{2}$ years. (S. M. of 1888, p. 245.)
 Suggested reduction of pupils, from 56 to 40, in first class of grammar schools defeated. (S. M. of 1888, p. 192.)
- 1889.—Compulsory attendance law amended so that poverty is no longer an excuse for absence from school, and all exceptions repealed other than that the child shall have attended for the required period a private day school approved by the School Committee, or has been otherwise instructed, or has already acquired the required learning, or if his physical or mental condition renders attendance inexpedient or impracticable. (Acts of 1889, Chap. 464.)
 Truant officers authorized to apprehend without a warrant and take to school any truant. (Acts of 1889, Chap. 422.)
 Power of School Committee over location, erection and repairs of school buildings enlarged, but appropriations still left with City Council. (Acts of 1889, Chap. 297.)
 Janitors, engineers and all persons having charge of steam boilers and furnaces in the school buildings placed under the Civil Service law. (Acts of 1889, Chap. 352.)
 Establishment of a Mechanic Arts High School advocated and plan formulated by Superintendent Seaver. (S. D. 5 of 1889, p. 19.)
 Boston Teachers' Mutual Benefit Association organized. (S. D. 4 of 1895, p. 73.)
 Majority and minority reports on Instruction in Hygiene. (S. D. 20 of 1889.) Report of the Board of Supervisors on Physical Training. (S. D. 10 of 1889.)

- 1890.—School Committee authorized to erect and furnish new school buildings from loans not to exceed \$550,000. (Acts of 1890, Chap. 355.)
 Last regular session prior to Memorial Day to be devoted to exercises of a patriotic nature. (Acts of 1890, Chap. 111.)
 Horace Mann School for Deaf transferred to new building on Newbury street. (S. D. 24 of 1890.)
 Attempt to reduce quota of pupils to 49 in grammar and primary schools defeated. (S. M. of 1890, p. 105.)
 Office of Instructor in Hygiene abolished and Director of Physical Training established. (S. M. of 1890, pp. 45, 210.)
 Interesting majority and minority reports on coeducation of the sexes. (S. D. 19 of 1890.)
 Plan of having no recess, and dismissing the morning session at 20 minutes before twelve tried in various schools (S. D. 7 of 1890, p. 27), but later given up (S. D. 12 of 1891, p. 22).
 Leave of absence of one year on half pay authorized for teachers after every ninth year of service. (S. M. of 1890, pp. 227, 233.)
 Discontinued in 1895. (S. M. of 1895, pp. 250, 315.)
- 1891.—Compulsory age limit increased to 15 in cities or towns where opportunity is furnished for gratuitous instruction in the use of tools or in manual training, or for industrial education in any form. (Acts of 1891, Chap. 361.)
 School Committee assented to appointment by Board of Health of medical inspectors for schools. (S. D. 19 of 1891, p. 27; S. M. of 1891, p. 301.)
 Elaborate report on Physical Training. (S. D. 22 of 1891; see also S. D. 8 of 1894.)
 Opinion of Corporation Counsel that the Normal School was for girls only and that men could not be admitted. (S. D. 19 of 1891, p. 10.)
- 1892.—Investigation and elaborate report as to proper seating of pupils and as to the injurious effect of unsuitable school furniture. (S. D. 9 of 1892; see also S. D. 8 of 1894, p. 108; S. D. 4 of 1895, p. 169.)
 Course in Normal School extended to two years. (S. M. of 1892, p. 189.)
- 1893.—Truant officers placed under Civil Service law. (Acts of 1893, Chap. 253.)
 Mechanic Arts High School established. (S. D. 3 of 1903, p. 54.)
 Cities and towns maintaining free evening schools authorized to provide lectures on natural sciences, history and kindred subjects. (Acts of 1893, Chap. 208.)
 Omission of, and substitute plan for, diploma examinations, and for promotions from primary to grammar schools. (S. M. of 1893, pp. 291, 331; S. D. 15 of 1895, p. 13; S. M. of 1895, p. 353.)
- 1894.—Manual Training in high schools made compulsory by law after September 1, 1895, in cities of 20,000 or more inhabitants, the course of instruction to "be subject to the approval of the State Board of Education." (Acts of 1894, Chap. 471.)

1894.—Instruction in cooking authorized (although Boston had schools of cookery since 1886), and the requirement as to instruction "in the elementary use of hand tools" changed to "the use of tools." Tools, implements and materials required to be loaned to pupils free of charge. (Acts of 1894, Chap. 320.)

Vivisection in public schools prohibited in the presence of any scholar, child or minor. (Acts of 1894, Chap. 151.)

Compulsory school law amended in certain details. (Acts of 1894, Chap. 188.) Law as to compulsory attendance and truancy codified. (Acts of 1894, Chap. 498.)

Medical Visitors (Inspectors) for the schools established by the Board of Health. (S. D. 4 of 1895, p. 76; S. D. 4 of 1900, p. 38.)

Special committee appointed to consider giving the Superintendent and Board of Supervisors greater power and responsibility reported in favor thereof (S. D. 7 of 1894), and their recommendations were adopted; but real power continued in sub-committees. (S. M. of 1894, pp. 199 to 207; S. D. 19 of 1894, p. 10; S. D. 4 of 1896, p. 86.)

Report on secondary education by Committee of Ten of the National Educational Association (of which President Eliot was chairman) considered by Superintendent Seaver, in the course of which he discussed the regrading of classes "in such a way as to give eight years or grades below the high school." (S. D. 4 of 1894, pp. 5, 12, 28 and 29; see also S. D. 19 of 1894, p. 18; S. D. 4 of 1896, p. 46.)

Departmental instruction in grammar schools authorized. (S. D. 20 of 1893; S. M. of 1894, p. 47; S. D. 19 of 1894, p. 15; S. D. 5 of 1897, p. 47; S. D. 4 of 1900, p. 17.)

Experiment authorized of parallel courses of study of four and six years in grammar schools. (S. D. 19 of 1894, p. 16; S. D. 4 of 1895, p. 27.)

1895.—Foreign flags forbidden on outside of schools (Acts of 1895, Chap. 115) and United States flag required to be provided for each schoolhouse. (Acts of 1895, Chap. 181.)

School Committee given full power to erect and furnish school buildings; Street Commissioners to take land at request of School Committee; bonds authorized. (Acts of 1895, Chap. 408.)

Latin, French, algebra and geometry, and other "enrichment studies" introduced in certain grammar schools experimentally. (S. D. 4 of 1895, p. 37; S. D. 4 of 1896, p. 41; S. D. 5 of 1897, p. 42.)

Position of Director of Kindergartens established. (S. M. of 1894, p. 348.)

Parental School for truants established in West Roxbury (under Acts of 1886, Chap. 282) after many efforts by the School Committee to secure action by City Council, under jurisdiction of directors of public institutions (now Children's Institutions Department), subject to visitation by School Committee. (S. D. 3 of 1903, p. 85.)

- 1896.— Supervision of drawing in day schools restored, and a staff of assistants to the Director appointed. (S. D. 3 of 1903, p. 100.)
Transfer of Normal School to State considered, and defeated. (S. M. of 1896, p. 523; S. D. 5 of 1897, p. 16.)
- 1897.— Additional loans authorized, of which not less than \$500,000 to be used for new high school buildings in East Boston, South Boston, West Roxbury and Dorchester. (Acts of 1897, Chap. 442.)
Board of Supervisors report in favor of a Girls' High School of Practical Arts. (S. D. 10 of 1897.)
Commercial courses in high schools authorized but not introduced until 1898. (S. D. 19 of 1897, p. 30; S. D. 15 of 1898, p. 18.)
Rules amended giving to the Board of Supervisors (instead of to the sub-committees) the initiative in the appointment of teachers. (S. D. 19 of 1897, p. 26 *et seq.*)
- 1898.— School Committee given power (formerly in City Council) to make appropriations from tax rate within prescribed limits for the support of the public schools, including repairs and alterations upon school buildings. (Acts of 1898, Chap. 400.)
Important changes in rules giving Superintendent and Supervisors greater power, and reducing the powers of sub-committees; the appointment, transfer and removal of teachers being given to the Superintendent, subject to the approval of the School Committee. Attempt made but failed to abolish sub-committees. (S. D. 15 of 1898, p. 13; S. D. 11 of 1898.)
Merit list established for the appointment of teachers from graduates of Normal School (S. D. 3 of 1899, p. 13), thus for the first time introducing the Civil Service idea in the appointment of teachers. (S. D. 4 of 1900, p. 13.)
School Committee voted in May to discontinue the Normal School in the hope that the State would take it over, but the popular protest was so great that in November the vote was rescinded. (S. M. of 1898, pp. 310, 574; S. D. 3 of 1903, p. 60.)
Additional loans for high and Latin schools authorized. (Acts of 1898, Chap. 149.)
Law as to school attendance and truancy amended and codified. Compulsory age limit "between seven and fourteen." A child need not be vaccinated upon certificate of a practicing physician that such child is an unfit subject therefor. Measles added to list of contagious diseases. (Acts of 1898, Chap. 496.)
Manual Training made compulsory in both elementary and high schools. (Acts of 1898, Chap. 496, Sect. 4.)
Evening schools required to teach the English language and grammar, industrial drawing, both freehand and mechanical, physiology and hygiene, in addition to previously required subjects. (*Id.*, Sect. 5.)
- 1899.— School Committee given full power over repairs and erection of new buildings. (Acts of 1899, Chap. 362.)

1899.— The attempt to abolish sub-committees having failed, they succeeded in obtaining an amendment to the rules restoring their power, and giving them a practical veto over all appointments, transfers and removals of teachers in their respective districts, thus partially overthrowing the reforms of the previous year. (S. M. of 1899, p. 300.)

First appropriation for playgrounds. (S. D. 3 of 1903, p. 122.)

Erection of Normal School building authorized (Acts of 1899, Chap. 239), but subsequently repealed. (Acts of 1901, Chap. 473, Sect. 8.)

Special classes for mentally deficient children established. (S. D. 4 of 1900, p. 51.)

1900.— Lectures on natural sciences, history and kindred subjects authorized. (Acts of 1900, Chap. 166.)

School teachers' retirement fund established. (Acts of 1900, Chap. 237; S. D. 19 of 1900, p. 8.)

Portable schoolhouses built to relieve temporary congestion of pupils in different sections of the city. (S. D. 19 of 1900, p. 26.)

Vacation Schools established for the first time under authority of Acts of 1899, Chap. 246. (S. D. 15 of 1900; S. D. 15 of 1902, p. 25.)

Elaborate report by Health Department (S. D. 6 of 1900) showing sanitary needs, and by Fire Department (S. D. 16 of 1900) showing fire protection needs for schools.

Quota of pupils to teachers reduced from 56 to 50 in grammar classes and two primary grades, and to 42 in the first primary grade. (S. D. 19 of 1900, p. 13; S. D. 3 of 1900, p. 7; S. D. 4 of 1900, p. 23; S. M. of 1900, p. 265.)

A corps of paid substitutes established to fill temporary vacancies in teaching force. (S. D. 19 of 1900, p. 14; S. D. 4 of 1900, p. 26.)

Reduction of grades in elementary schools from nine to eight recommended by Superintendent and Board of Supervisors (S. D. 3 of 1900, p. 19), and School Committee voted to instruct Board of Supervisors to prepare revised course providing for eight grades instead of nine. (S. M. of 1900, p. 244; S. D. 4 of 1900, p. 36.)

1901.— Schoolhouse Department established; loans of \$1,000,000 annually for four years for new buildings, etc., authorized (Acts of 1901, Chap. 473), and School Committee given authority to appropriate annually from the tax rate 40 cents upon each \$1,000 of taxable valuation for new schools. (Acts of 1901, Chap. 448.) Additional loan of \$300,000 authorized to complete buildings then being erected. (Acts of 1901, Chap. 288.)

South Boston High School established (S. D. 3 of 1903, p. 52) and new high school buildings opened in Dorchester, East Boston and West Roxbury. (S. D. 15 of 1901, p. 18.)

- 1901.— Elective system for studies in high schools adopted. (S. D. 3 of 1901, p. 7 *et seq.*; S. D. 15 of 1901, p. 15.)
 Experiment in school gardening conducted in connection with Normal School. (S. D. 11 of 1901, p. 5.)
 Office of Schoolhouse Custodian established. (S. D. 15 of 1901, p. 16.)
 Free evening lectures given under provisions of Acts of 1893, Chap. 208, and Acts of 1900, Chap. 166. (S. D. 15 of 1902, p. 32; S. D. 13 of 1903; S. D. 13 of 1904, p. 25.)
- 1902.— Petition to Legislature for authority to establish a Teachers' College in place of Normal School—Legislature gave leave to withdraw. (S. D. 3 of 1902, p. 12; S. D. 14 of 1903, p. 11.)
 Unsuccessful attempt made to increase the course in the Normal School to three years. (S. M. of 1902, p. 507.)
 Increased loans for new buildings authorized. (Acts of 1902, Chap. 386.)
 Rules amended taking away power of sub-committees over appointments, transfers and removals of teachers, and requiring that the same be made by the Superintendent direct to the School Committee. (S. M. of 1902, p. 94.)
 Appropriation from taxes for new buildings vetoed by Mayor. Later \$90,000 appropriated for that purpose and approved by Mayor. (S. D. 15 of 1902, p. 50.)
 The subject of the extended use of school buildings considered, and Educational Centres established (since merged in evening schools). (S. D. 15 of 1902, p. 17; S. D. 13 of 1904, p. 45; S. D. 7 of 1908, p. 54.)
 Resolution adopted that sex should not be a bar to promotion in the teaching force, and that in any appointment to a position as principal of a girls' school, a woman, other things being equal, should be preferred. (S. D. 15 of 1902, p. 40; S. M. of 1902, p. 179.)
 Power to license minors under 14 vested in Boston School Committee. (Acts of 1902, Chap. 531.) Rules provide that the minimum age for licensees shall be over 10. (S. M. of 1902, p. 422.)
 A system of promotion of janitors for merit established. (S. D. 14 of 1903, p. 16.)
- 1903.— Appropriation of \$60,000 authorized for maintenance of schools, out of "40 cents" fund. (Acts of 1903, Chap. 170.)
 Valuable historical review of the Boston school system by Superintendent Seaver. (S. D. 3 of 1903.)
 Report of the Committee on Extended Use of School Buildings, with an account of Educational Centres and Vacation Schools. (S. D. 9 of 1903.)
 Uniform schedule of janitors' salaries adopted. (S. D. 11 of 1903; S. M. of 1903, p. 522.)
- 1904.— School Committee authorized to expend money for exhibition at any national, state or foreign exposition. (Acts of 1904, Chap. 172.)

1904.— Admission of men to Normal School authorized (Acts of 1904, Chap. 212) and entrance to the Normal School made more difficult, through examinations, in the hope of securing better teachers. (S. D. 9 of 1906, p. 12.)

The change from nine to eight grades below the high schools further considered. Superintendent Seaver said "the present opposition to a change is nothing more than a disinclination to change working habits. The waste of time that affects the course of very many of the abler pupils and the dawdling habits thereby engendered call for some effectual remedy." (S. D. 3 of 1904, pp. 48, 50, 73.)

Industrial education in elementary schools, introduced experimentally in Winthrop School. (S. D. 10 of 1910, p. 58.)

George H. Conley elected Superintendent. (S. M. of 1904, p. 302.)

Power of sub-committees over appointments, transfers and removals of teachers partially restored, the rules being amended to require that the same be first submitted to said committees, who are required, however, to report to the School Committee not later than one month thereafter. (S. M. of 1904, pp. 143, 173; S. D. 13 of 1904, p. 13.)

Elaborate report by Director of Drawing on the Evening Drawing Schools, their needs, possibilities of extension, and value in industrial training. (S. D. 3 of 1905.)

1905.— Compulsory school age raised to "under 16" where child cannot read and write English. (Acts of 1905, Chap. 320.)

Lincoln Day to be observed with appropriate exercises in the public schools. (Acts of 1905, Chap. 328.)

State released to city land on Newbury street, occupied by Horace Mann School, the proceeds, if sold, to be used for another site for the School for the Deaf. (Acts of 1905, Chap. 467.)

Further loan authorized for new buildings. (Acts of 1905, Chap. 392.)

Permission given to certain private charitable organizations to place trained nurses in certain schools without expense to the city, an experiment which led to the legislation as to nurses in 1907. (S. D. 17 of 1906, p. 51.)

Plans for Commercial High School adopted. (S. D. 4 of 1905; S. M. of 1905, p. 224.)

Walter S. Parker Acting Superintendent after Mr. Conley's death in December. (S. D. 9 of 1906, p. 8.)

School Committee reorganized and membership reduced to five (beginning January, 1906); elected at large. (Acts of 1905, Chap. 349.)

1906.— Board of Superintendents established (in place of Board of Supervisors), to consist of Superintendent and six assistant Superintendents, elected by School Committee for terms of one to six years, one assistant superintendent to be elected annually, after first election for six years. (Acts of 1906, Chap. 231.)

Stratton D. Brooks elected Superintendent for term of six years. (S. M. of 1906, p. 162.)

1906.— Rules and regulations revised, leaving details of administration to be performed by paid officials, with executive responsibility, while the duties of the School Board became mainly legislative. (S. D. 9 of 1906, p. 10.) The principle of direct accountability on the part of subordinates to superiors established. (S. D. 17 of 1906, p. 20.) System of sub-committees abolished. (S. D. 17 of 1906, p. 12.)

Office of Business Agent established and Auditor, Business Agent and Secretary elected on tenure. (Acts of 1906, Chap. 318.)

Board of Sale of school land and buildings established, consisting of the Mayor, School Committee and Schoolhouse Commission. (Acts of 1906, Chap. 259.)

Independent Industrial Schools authorized, the State to bear one-fifth, later increased to one-half the cost. (Acts of 1906, Chap. 505; Acts of 1909, Chap. 540.)

School athletics placed in charge of School Committee. (Acts of 1906, Chap. 251.)

Law amended so that physical or mental condition capable of correction no excuse, unless all reasonable measures are employed to correct the same, for a child's nonattendance at school. (Acts of 1906, Chap. 383.)

Appointment of School Physicians required by law, but not applicable to Boston where Board of Health maintains them. Every child in the public schools to be tested by teachers at least once a year for defective sight or hearing or other disability tending to prevent its receiving full benefit of school work. (Acts of 1906, Chap. 502.)

Ground for temporary exclusion of pupils from school extended to exposure to any infectious or contagious disease. (Acts of 1906, Chap. 371.)

Boston Juvenile Court established. (Acts of 1906, Chap. 489.)

Under the new Board the following measures for improving the school service undertaken or accomplished (see Superintendent's Report, S. D. 9 of 1906, and Annual School Report, S. D. 17 of 1906):

- (1) Merit system of appointing teachers through a Civil Service system greatly strengthened.
- (2) Change of requirements for teachers' certificates to secure teachers skilled in departmental work.
- (3) System established of supervising and training teachers while serving as substitutes. Supervisor of Substitutes appointed.
- (4) Promotional examinations or tests of efficiency required of teachers.
- (5) A system established of leave of absence on half pay for purposes of study and travel to teachers who have served seven years, and leave of absence for rest after twenty years of service.

1906.— (6) Heads of departments established in high and Latin schools to secure uniformity of aim and greater effectiveness in teaching departmental subjects.

(7) Establishment of High School of Commerce.

(8) Revision of high school course of study, restricting somewhat the freedom of electives, and establishing certain required subjects. A full four years, or its equivalent, required to secure a diploma.

(9) Revision of Evening High School course of study to encourage pupils to pursue a regular course of serious work with final graduation in four years.

(10) Elimination of distinction between primary and grammar schools; both thereafter treated as elementary schools as distinguished from the high or secondary schools.

(11) Substitution of eight for nine grades in the elementary schools.

(12) Reorganization of manual training for girls, and appointment of a Supervisor of Household Science and Arts to have charge of cookery and sewing.

(13) Establishment of disciplinary classes for boys who might otherwise be sent to the Parental School.

(14) Election of a medical inspector for special classes.

(15) Uniting of drawing and manual training into one department, under one director.

(16) Evening and Vacation Schools united under one director.

(17) Evening class in salesmanship previously maintained at private expense taken into the school system.

(18) Appointment of Advisory Committee of Physicians to consider various health problems.

1907.— Power of School Committee in respect to physical education enlarged; special appropriations from tax rate (two cents for 1907 and four cents annually thereafter upon each \$1,000 of taxable valuation) authorized for physical education and playgrounds, etc. (Acts of 1907, Chap. 295.)

School nurses authorized, with special appropriation from tax rate not exceeding \$10,000 for 1907 and thereafter each year of 2 cents upon each \$1,000 of taxable valuation. (Acts of 1907, Chap. 357.)

Physician's certificate to exempt child from vaccination must be "for cause stated therein." (Acts of 1907, Chap. 215.)

School Committee required each year to designate where additional school accommodations are necessary, and order in which they shall be provided; annual issue of bonds for new school buildings authorized. (Acts of 1907, Chap. 450.)

The following measures were begun or accomplished (see Superintendent's Report, S. D. 13 of 1907, and Annual School Report, S. D. 16 of 1907):

(1) Larger co-operation of the teaching force in determining educational policies.

- 1907.— (2) Readjustment of the high schools to the new system of eight grades in the elementary schools. A committee of conference known as the Committee on Betterment appointed for this purpose, consisting of the Superintendent and representatives of the Board of Superintendents, high and elementary school principals and teachers.
- (3) Revision of course of study for elementary schools to meet the change in number of grades, prepared with the assistance of special committees consisting of one or more assistant Superintendents, Directors, principals and teachers.
- (4) Reduction of quota of pupils in elementary schools to 48 in 1907, 46 in 1908, and thereafter 44.
- (5) Reorganization of the Department of Physical Training as a Department of School Hygiene under a Director of Hygiene; school athletics placed under this department.
- (6) System of training teachers strengthened by appointment of a Supervisor of Practice in the Normal School.
- (7) High School of Practical Arts for Girls established.
- (8) Industrial education extended in elementary schools through experiment in Hancock and Agassiz schools and continued in Winthrop School.
- (9) Appointment of special advisory committees of laymen on various school subjects, notably the Committee for the High School of Commerce.
- (10) Appointment of committee of teachers known as the Committee on College Credit to consider the opportunities for collegiate instruction open to teachers of Boston and vicinity.
- (11) Extension of schedule of janitors' salaries to include high schools.

1908.— Pensions (maximum \$180 per year) for members of the teaching or supervising staff required with special appropriations from tax rate of 5 cents annually on each \$1,000 of taxable valuation. (Acts of 1908, Chap. 589.) Accepted by City Council June 22, 1908.

Instruction required by law to be given as to tuberculosis and its prevention. (Acts of 1908, Chap. 181.)

Provisions as to fire escapes. (Acts of 1908, Chap. 524.)

The following measures were begun or accomplished (see Superintendent's Report, S. D. 7 of 1908, and Annual School Report, S. D. 8 of 1908):

- (1) Codification of teachers' certificate privileges, and list prepared of teachers arranged as to their eligibility for promotion.
- (2) Teacher assigned to open-air class for tuberculous children on Parker Hill; later transferred to Refectory Building, Franklin Park.
- (3) Teachers of sewing for the first time appointed on tenure, and the work reorganized under the Supervisor of Household Science and Arts.
- (4) Departmental organization of the high schools completed by appointment of women as heads of departments with the rank of first assistants.

- 1908.— (5) Establishment of High School Councils, one for each department, consisting of the heads of departments of the various high schools, each school having one vote, to consider the important problems of courses of instruction, text-books, supplementary material and kindred subjects.
- (6) Clerical assistants authorized in Latin and high schools to relieve principals from clerical work.
- (7) Last year of the Vacation Schools, which this year in part and thereafter wholly were merged into the Summer Playgrounds.
- (8) Committees of school principals established to advise Superintendent as to plans for new buildings.
- (9) Exchange of teachers with Prussia arranged through the Carnegie foundation.
- (10) Board of Apportionment established consisting of Board of Superintendents, Business Agent and Auditor.
- (11) Rule established under which teachers retire at seventy years of age, and maximum age limit for new teachers placed at forty.
- (12) Martin District organized as a model school for the pupils of the Normal School, with one of the Normal School teachers (Director of the Model School) as principal.
- (13) One of the truant officers made Supervisor of Licensed Minors.
- (14) Extension of term of evening schools for foreign-born pupils.
- (15) Keeping of records in and making report by evening schools systematized.
- (16) System of accounts adopted by the Business Agent to show the cost of each unit of the school system.

1909.— Appropriations allowed School Committee from the tax levy for general school purposes increased from \$2.75 to \$2.85 upon each \$1,000 of taxable valuation in 1909-10, \$2.95 in 1910-11, and \$3.05 in 1911-12; each in addition to 25 cents for the repair fund, 40 cents for the new buildings fund, 4 cents for physical education, 2 cents for nurses, and 5 cents for pensions, upon each \$1,000. (Acts of 1909, Chap. 388.)

School Committee given authority over secret (except religious) organizations of pupils. (Acts of 1909, Chap. 120.)

Display of United States flag on or in schools made compulsory. (Acts of 1909, Chap. 229.)

Loans authorized for High School of Commerce and administration building. (Acts of 1909, Chap. 446.)

Pensions for teachers — maximum pension \$180. (Acts of 1909, Chap. 537.) Not accepted by School Committee, and repealed by Acts of 1910, Chap. 617.

The following measures were undertaken or completed (see Superintendent's Report, S. D. 13 of 1909, and Annual School Report, S. D. 15 of 1909):

- 1909.— (1) Trade School for Girls established, under provisions of Acts of 1906, Chap. 505, and Acts of 1909, Chap. 540, to be conducted by School Committee as agent of Board of Education, the State bearing part of the cost, the object of the school being to give a trade training to girls between fourteen and eighteen who are obliged to become wage earners.
- (2) Summer High School opened in the Roxbury High School for those wishing to make up conditions, those preparing for college admission examinations and for admission to high schools.
- (3) A committee on vocational advice appointed.
- (4) Evening industrial schools take place of evening drawing schools, conducted by School Committee as agent of Board of Education, the State bearing part of the cost (under Acts of 1906, Chap. 505, and Acts of 1909, Chap. 540).
- (5) Further experiments of an industrial character in the elementary schools introduced in the Eliot School, Washington Allston School, Lyman School, Oliver Wendell Holmes District, Quincy District and in the Horace Mann School.
- (6) Pre-Apprentice School for Printing and Bookbinding established in East Boston.
- (7) Experimental health or open-air rooms established.
- (8) Manual for public school playgrounds issued and greater activity and system with respect to physical training. Provisional courses in physical education adopted both for the elementary and high schools. Weighing scales and measuring rods purchased to take records of each child's weight and height.
- (9) Health Day observed in the schools and annual Health Day established.

1910.— New act passed providing annual pensions for members of the teaching and supervising staff retired under its provisions—minimum, after 30 years' service, \$312; maximum, \$600; also pensions of not less than \$180 for not less than sixty annuitants of Teachers' Retirement Fund and other teachers described in the act. (Acts of 1910, Chap. 617.)

Instruction to be given in "thrift" authorized. (Acts of 1910, Chap. 524.)

Requirements as to military drill modified, exempting a pupil if his parent or guardian is of a religious denomination conscientiously opposed to bearing arms, or is conscientiously scrupulous of bearing arms; or upon certificate from a physician of good standing that it would be injurious to the pupil's health. (Acts of 1910, Chap. 201.)

The following measures have been established or considered:

- (1) Teachers' council on pensions organized.
- (2) Continuation schools established, wherein persons employed may receive part time instruction that will be of immediate assistance in their daily work. Title of Director of Evening and Vacation Schools changed to Director of Evening and Continuation Schools.

- 1910.— (3) New system of penmanship introduced.
- (4) Minimum age limit for admission to kindergartens raised to four years.
- (5) Clerical High School established by order passed February 7, 1910, to begin on July 11, 1910; order rescinded because of lack of funds June 6, 1910.
- (6) Newsboys' Trial Board established consisting of two adults appointed by School Committee and three licensed newsboys elected by their fellows.
- (7) Trial Board for Janitors established, consisting of the Secretary of the School Committee, the Business Agent, and a school janitor elected by his associates, to secure a careful investigation of complaints made against janitors, engineers or matrons.
- (8) Appropriation from annual taxes for new school buildings passed over Mayor's veto.

1911.— Savings banks authorized with consent of and under regulations approved by School Committee and Bank Commissioner to receive deposits from school children through the principal or teachers or by collectors. (Acts of 1911, Chap. 211.)

Penalty for failure to display United States flag on schoolhouses. (Acts of 1911, Chap. 232.)

School committees authorized to expend money for the supervision of sports and the equipment thereof. (Acts of 1911, Chap. 314.)

School committees authorized to grant use of school halls for public or educational purposes which will not interfere with regular school work. (Acts of 1911, Chap. 367.) Not yet accepted by the Boston City Council.

"Illiterate minor" defined by statute (for compulsory attendance at evening school) to mean an illiterate under the age of twenty-one years. (Acts of 1911, Chap. 241.)

Instruction authorized in the application of surgical remedies and first aid for the injured. (Acts of 1911, Chap. 247.)

School Committee authorized to appropriate an additional 10 cents in the year 1912, 20 cents in the year 1913, and thereafter annually 25 cents upon each \$1000 of taxable valuation, to be used wholly for the purpose of increasing salaries of teachers. (Acts of 1911, Chap. 708.)

The following measures were begun or accomplished:

- (1) Establishment of the following new schools:
- a. Boston Industrial School for Boys (taking over the Pre-Apprentice School for Printing and Bookbinding).
 - b. Evening Trade School.
 - c. Girls' Evening High School.
 - d. Continuation School class in household arts as a State-aided school.
- (2) Assumption by the School Committee of the financial control of all school athletics.

- 1911.— (3) Enlargement of the truant officers' force and the special assignment of one truant officer to the enforcement of the laws pertaining to evening school attendance.
- (4) Adoption of a regulation requiring a small deposit for admission to evening high and industrial schools of persons not required by law to attend such schools, under Acts of 1911, Chap. 309.
- (5) Appointment of a permanent force of playground teachers.
- (6) Establishment of additional open-air classes in elementary schools.
- (7) Removal of old and unauthorized text-books from the schools systematically begun.
- (8) Adoption of a per capita plan of distribution of supplies and text-books in the schools.

PART IV.

REPORT ON THE BOSTON SCHOOL SYSTEM.

THE FINANCE COMMISSION

OF THE

CITY OF BOSTON

REPORT ON

THE BOSTON SCHOOL SYSTEM



CITY OF BOSTON
PRINTING DEPARTMENT
1911



REPORT ON BOSTON SCHOOL SYSTEM.

Boston, October 7, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,—Your Honor has invited the Finance Commission “to conduct such an inquiry into the methods of the School and Schoolhouse Departments and the results attained as shall either satisfy the public mind of the need of these increased expenditures or suggest a specific policy of retrenchment.”

In response to this request the commission has investigated the school system of Boston. The commission has received valuable assistance both from the labors and the experience in school matters of the Director of its Bureau of Research. Because of the many difficulties in securing school data from other cities, as well as the pressure of other work, the report has been delayed for a longer time than had been anticipated. It is now presented to your Honor in five parts, as follows:

- Part I. Introductory.
- Part II. Development and Growth of the Schools.
- Part III. Financial Review.
- Part IV. Comparison with Other Cities.
- Part V. Conclusions and Recommendations of the Commission.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

PART I. INTRODUCTORY.

The complaint of the heavy cost of the schools is by no means a new one. The records show that as early as 1751 a committee appointed to make inquiry into the state of the town and the causes of the great expense thereof reported that "the Charge of supporting the several Publick Schools amounted the last Year to more than $\frac{1}{3}$ part of the whole Sum drawn for by the Selectmen"; but the committee wisely added, "altho. this Charge is very Considerable & the number of Schools is greater than the Law requires, Yet as the Education of Children is of the greatest Importance to the Community; the Committee cannot be of Opinion that any Saving can be made to Advantage on that head." (See Document No. 18 of 1888, page 37.)

It is interesting to note that the Boston schools cost less proportionately last year than they did in 1751, nearly 160 years ago; the appropriations for supporting the schools from the tax rate last year (1910) being less than one-third of the total municipal appropriations (excluding those for interest, sinking fund and state and county expenses), namely, \$3.64 out of \$12.90.

It is sometimes said that the schools to-day are not as efficient as they were in the days vaguely referred to as "the past" and particular emphasis is laid upon the manner in which the "three R's" are said to be neglected in contrast with the thoroughness with which they were taught in the days of old. This complaint, like that as to the excessive cost of schools, is not a new one. There are on file in the offices of the School Committee certain bound volumes of written examinations held in the grammar schools in 1845, as to which the committee on annual examinations of that year (City Document 26 of 1845, page 9) said:

"It is very difficult to believe that in the Boston schools there should be so many children in the first classes unable to answer such questions; that there should be so many absurd answers; so many errors in spelling, in grammar and in punctuation."

On page 17 the committee said:

"These answers show beyond all doubt that a large proportion of the scholars of our first classes, boys and girls of fourteen or fifteen years of age, when called upon to write simple sentences, to express their thoughts on common subjects without the aid of a dictionary or a master, cannot write without such errors in grammar, in spelling and in punctuation as we should blush to see in a letter from a son or daughter of their age."

In 1852 the committee on examinations (City Document 50 of 1852, page 7) undertook to refute the charge "that the public schools of the city are as a whole deteriorating, that our teachers as a body are becoming faithless to the sacred trust reposed in them, and that our children for whose education so much of the public treasure is annually and freely expended are not receiving any adequate return for all this outlay, but are sent forth with only the husks of an education."

In 1854 the School Committee (City Document 74 of 1854, page 27), speaking of spelling, said: "The average number of errors in a list of words in ordinary use, selected for the purpose of examination of the first classes, was far greater than was anticipated and shows the necessity of an increased attention to this subject." Of reading, it said (*id.*, page 28), that in some schools "a style of reading has been introduced and encouraged whose object would seem to be to leave truth and nature out of view and substitute an artificial standard in their place." As to writing (*id.*, page 29), the comment was that while there was a good degree of proficiency, "It would perhaps be better if more of the time devoted to writing were spent upon what is essential and practical rather than upon the ornamental branches of the art"; of grammar (*id.*, page

31), "Some pupils, who could parse and analyze remarkably well used incorrect language in conversation"; of arithmetic (*id.*, page 32), "Sufficient care is not always taken to make the pupil understand the principles of arithmetic and the reason for the processes performed. The result of the examination shows that mistakes in simple numeration, addition, subtraction, multiplication and division are among those most frequently made even by advanced pupils."

In 1859 the accusation was made that the children were overtasked and overstimulated, the system being called a "high pressure system," a "forcing system," a "cramming machine," "disastrous to the mental and bodily health of pupils." (School Committee Report for 1859, page 53.)

In 1875 (Annual School Report, page 12) the School Committee said:

"It is common to hear unfavorable contrast drawn betwixt the scholarship and fitness for practical life of graduates of the present and of former times when studies were fewer and expenditures smaller."

In speaking of the character and qualifications of the teachers, the same committee said (*id.*, page 16):

"Your committee have to reiterate long-standing criticisms that many of the teachers are far from what they ought to be, in view of the work which should be expected of them and of the high salaries they receive. In many districts the standard of teachers' qualifications has been steadily lowered. Instead of selections being made from the best-educated applicants, especially from those of a normal school training or of an experience the equivalent of such training, considerations of sympathy for the candidate's poverty, of personal friendship or of political influence have decided the choice. Granted that altogether such selections are fewer than formerly, still they have existed to a most pernicious extent in schools which could least afford to suffer from them."

In 1883 the Governor of the Commonwealth in his inaugural made an attack upon the system of education

in Massachusetts, and particularly upon the Boston schools, for their alleged failure to meet the needs of the common people. (See pages 685, 686.)

So from year to year, and at the present time, similar complaints have been and are being made. They all have a certain element of truth, as will appear in the course of this report; but it would be unfair to take them too broadly. The fact cannot be ignored that all the while there has been flowing through the schools a stream of children who have gone out into the community, taken their places in the world, and quietly and effectively discharged the duties that have fallen to their lot, demonstrating that the schools, with all their imperfections, have been doing good work in spite of criticism.

It is easy enough to pick out a child, or a large number of children, who cannot read, write, spell or cipher correctly. There are undoubtedly many children now as always who do not, many of whom cannot, profit by the schools; there are some poor and inefficient teachers now as always; but the product of the schools as a whole has been and is good. Samples can be shown of splendid work done as well as samples of poor work. Neither extreme can be safely accepted in reaching a final judgment.

As far back as 1875 the School Committee (Annual Report, page 16) said:

"The modern school is now called upon to teach many of the rudimentary virtues of which the homes are destitute, and children of vicious habits and coarse manners, who increase in numbers annually in the mixed population of a great city, gravely complicate the difficulties in the teacher's task of preserving a high moral tone in the mass of pupils."

The real question is not whether every child who passes through the schools comes out a highly developed scholar and a model citizen, but whether the schools with their limitations are making as much as can reasonably be expected of the varied material with which they are obliged to deal. A definite solution of this

problem can of course only be had by studying each child, its origin, its environment and its entire career, both in the schools and in after life; and even then the elements necessary for passing judgment are so complicated and so uncertain that it would be difficult to reach a right conclusion. Isolated statements of individual cases are of little value. Attempts have been made to follow graduates of particular schools into the colleges and technical schools, sometimes with favorable and sometimes with unfavorable results; but such an inquiry must necessarily be limited in scope and unsatisfactory. A broader investigation along these lines would include the stores, the workshops and the homes; but this seems, for the present at least, impracticable. The effort, however, should not be abandoned; the time will come when such an inquiry can and will be effectively made. It was with this thought in mind that the Board of Superintendents in 1908 recommended that records of the life and occupation of the various graduates be kept at the several schools, with the co-operation of principals and teachers and associations of graduates and other organizations interested in educational activities.

The next best way to judge of the efficiency of the schools is to see what they are trying to do and how they are trying to do it. Are the school authorities recognizing the imperfections and are they trying to overcome them?

The Boston public schools have reached their present position through a process of evolution. The city has been singularly fortunate in the number of able men and women who have helped to shape its school policy. The names of Chief Justice Shaw, Horace Mann, Nathan Bishop, John D. Philbrick, Samuel Eliot, Edwin P. Seaver, George H. Conley, Samuel B. Capen, A. Lawrence Lowell, Ellis Peterson, Sarah Louise Arnold and many others at once suggest themselves. They have all been working toward a well-defined goal of school efficiency and their work has been, and is, ably supplemented by those now in the service.

Progress at first was slow. Doctrines that to-day are accepted as truisms found in the early days much hostility, few listeners and almost no converts.

Among these truisms is the statement that educational efficiency demands:

- 1, effective supervision;
- 2, good school buildings;
- 3, a curriculum broad enough to meet the varied needs of the community, both cultural and vocational;
- 4, well-selected text-books and other school supplies;
- 5, capable and well-trained teachers;
- 6, a small quota of pupils to teachers;
- 7, healthy children, physically capable of receiving instruction.

At no period in the history of the Boston schools have these essentials been more fully recognized and cared for than to-day. No one will dispute that they are essentials, and no one would be willing to give them up; yet they are the true reasons for the present heavy cost of schools.

These various subjects will be considered in detail in Part II. of this report.

PART II. DEVELOPMENT AND GROWTH OF THE PUBLIC SCHOOLS.

CHAPTER I. OUTLINE OF THE HISTORY OF THE SCHOOLS.

SECTION 1. PERIODS OF DEVELOPMENT.

The history of the Boston public schools may be divided into the following periods (see School Document 18 of 1888, School Document 3 of 1903, School Document 17 of 1906):

1636-84.

In which there were no elementary schools for children generally, and there was only the Latin School for fitting boys for college.

1684-1740.

When in addition to the Latin School there were schools "for the teaching of children to write and cypher" under writing masters.

1740-1847.

When the writing schools were gradually developed into grammar schools, under what is known historically as "the double-headed system," the pupils in each school being half the day under the direction of the writing master and half the day under the grammar master. "This unique arrangement prevailed in the Boston schools for more than one hundred years."

1847-76.

When the "single-headed system" superseded the "double-headed system" and the paramount authority of the grammar master was recognized; the office of superintendent of schools established; a period of reconstruction and enlargement.

1876 to the Present.

A period of systematizing and unifying; the extension of the system of supervision through a board of superintendents, directors and principals; the gradual recognition of the value of professional knowledge and experience in educational matters; the duties of the School Board becoming mainly legislative, the details of administration being performed by paid officials with executive responsibility.

SECTION 2. THE ERA OF FINANCIAL INDEPENDENCE.

Thirteen years ago the schools entered upon a new era which may be called a period of financial independence. Prior to 1898 the School Committee was dependent for the funds necessary to carry on the schools on appropriations made by the City Council. Disagreements arose between the appropriating and spending powers. The City Council was niggardly and the schools suffered in consequence. In 1898 (Acts of 1898, ch. 400) the Legislature passed an act making the School Committee financially independent of the City Council by giving it a specific part of the tax levy, from which it has since annually made its own appropriations, subject only to the Mayor's approval or veto. During this period the School Committee practically has had a free hand and the school system has developed as never before.

SECTION 3. DEFINITION OF CERTAIN TERMS USED HEREIN.

It is this period of thirteen years of financial independence, 1898-1911, which will form the main subject of this report. For convenience of comparison this period may be further divided into two other periods, the line of demarcation being the year 1906, when, as hereafter explained, the School Committee of twenty-four members was succeeded by the School Committee of five members. For brevity and clearness the period of thirteen years from January 31, 1898, to January 31, 1911, will throughout this report be called "the period"; the period of eight years from January 31, 1898, to January 31, 1906, under the School Committee of twenty-four members, will be called "the first subperiod"; and the period of five years from January 31, 1906, to January 31, 1911, under the School Committee of five members, will be called "the second subperiod." The last year of the system of appropriations by the

City Council, 1897-98, the last year of the former School Committee of twenty-four members, 1905-06, and the last school year, 1910-11, will be principally used in making comparisons as fair representatives of their respective periods and subperiods.

A review of the school system and the work accomplished during the period of thirteen years will help to a proper understanding of the situation.

CHAPTER II. SUPERVISION.

SECTION 1. THE SCHOOL COMMITTEE.

The following table shows the changes in the composition of the Boston School Committee from 1635 to the present time.

	Number of Members.
1635-1789. Selectmen	9
1789-1822. Selectmen and one from each ward	21
1822-1835. Mayor, Aldermen and one from each ward	25
1835-1854. Mayor, president of Common Council and two from each ward	26
1855-1875. Mayor, president of Common Council and six from each ward	74 to 116
1876-1885. Mayor and twenty-four elected at large	25
1885-1905. Twenty-four elected at large	24
1906. Five elected at large	5

In addition to the regular School Committee there was a primary School Committee from 1818 to 1854, with a membership varying from 36 to 196.

From this table it appears that Boston has tried a large variety of experiments in school administration. The large School Committee with local representation was twice tried, once with the primary School Committee from 1818 to 1854, when the membership reached 196, and once with the regular School Committee from 1854 through 1875, when the membership reached 116.

In 1871 (Annual School Report for 1871, page 363) it was pointed out that the membership of the regular School Committee was too large for the efficient and economical transaction of business.

In 1876 (Annual School Report, page 4) the School Committee in commenting upon the situation said:

"Boston has administered its schools through a board of 116 persons. Some among them had never given any thought to the subject upon which they were called to legislate, and others had just that amount of knowledge which is 'a dangerous thing.' The rest formed a small nucleus of men well qualified for their position, though not always able to fill it to their own satisfaction, as their wisest measures were subjected to the decision of a controlling majority. In one particular, however, all the members labored under an equal disadvantage, namely, a want of time to attend to their assigned duties, however willingly they would have performed them."

For these and similar reasons the Legislature reduced the size of the committee to twenty-five members, consisting of the Mayor and twenty-four others elected at large. (Acts of 1875, ch. 241.) The Mayor was dropped from the committee in 1885 (chapter 266, section 10), leaving the number of members twenty-four elected at large.

The desire apparent in all parts of the country to reduce the number of elective officials and to concentrate the attention of the voters upon a few names on a short ballot led to a further reduction in the membership to five in 1906. (Acts of 1905, ch. 349.)

Coupled with this reduction in the number of the committee there was of necessity an increase in the force of trained administrators both on the business and educational side of the school system. It is manifest that neither twenty-four nor five members, serving without salary, could give the time personally to administer in all their details the schools of so large a city as Boston. The most that could be expected of them was to study the large problems as they arose and lay out a general line of school policy. This is the true school system, at which Boston has fortunately arrived through a painful process of evolution.

SECTION 2. EDUCATIONAL SUPERVISION.

1. *Superintendent and Supervisors.*

In the "first subperiod" the supervising force consisted of a superintendent, who with six supervisors constituted the Board of Supervisors, chosen, as had been done since 1875, by the School Committee for terms of two years, under the provisions of chapter 241 of the Acts of 1875. The superintendent, under the rules, was the representative of the School Committee in matters relating to instruction, and the supervisors under his direction visited and supervised the schools, examined pupils and teachers, and generally acted as "the executive board of the School Committee." There was at first friction between the superintendent and the supervisors, relating to their respective ranks, and in 1884 (School Minutes of 1884, page 171) the rules were amended making the superintendent "the executive in the department of instruction over all supervisors, principals and other instructors." Prior to 1898, however, neither he nor the supervisors had any real power, the actual administration of the schools being in numerous subcommittees and in individual members of the School Committee. Efforts were repeatedly made to change the rules, enlarging the powers of these officials, and in 1898, and again in 1902, after a prolonged and bitter controversy, a partial success was achieved. A running fight, however, was kept up by certain members of the School Committee, who resented all encroachments upon what they regarded as their prerogatives and who constantly interfered with and often overthrew the action of the superintendent and supervisors. Frequently personal and political considerations wholly unconnected with, and dangerous to, the welfare of the schools dominated these contests.

2. *Centralization of Authority.*

With the advent of the new committee of five members in the "second subperiod" a change has taken place looking toward a greater centralization of authority

and the unification of the school system. This has excited unfavorable criticism from some of those who advocate an extreme form of individual freedom for principals and teachers and who have failed to see just what is intended. Boston schools have become famous through a line of illustrious school principals from the days of Philemon Pormort and the "famous Master Cheever" of the early Latin School, to those of Francis Gardner, Thomas Sherwin, James A. Paige, Sarah Fuller, John Tetlow, Edward Southworth, and many others who might be mentioned, whose remarkable personalities have enabled them to win great reputation for themselves and their schools. It is argued by the critics of centralization and unification that in the future this great advantage is to be lost. The Finance Commission has given careful consideration to the suggestion, but is convinced that the plan which was adopted in 1906 and which is only now beginning to be well enough understood to get a fair trial, has not had, and probably never will have, any such effect. Its aim is to keep a very large share of individual freedom and initiative for the principals and teachers, while providing the additional advantage of intelligent oversight of the entire system by the Board of Superintendents with the superintendent as the responsible executive head. There is no thought, as has been feared by some, of autocratic, dictatorial management from the superintendent's office, with consequent loss of initiative, responsibility and interest in the teachers. With such a fear in mind many teachers have viewed the change with a not unnatural jealousy and certain reactionary elements are undoubtedly still hostile to it; but time is gradually demonstrating the wisdom of the change, and even the extreme conservatives are coming to see the situation in its true light. In the opinion of the Finance Commission it can fairly be said that what was in 1906 an experiment viewed by many sincere friends of the schools with distrust, is now a policy standing fully justified by its results after five years of severe test.

3. *Board of Superintendents.*

The need of a supervising force of large powers and responsibility and a reasonably permanent tenure led the Legislature by Acts of 1906, chapter 231, to substitute a Board of Superintendents for the former Board of Supervisors. The statute provides that the School Committee shall elect a superintendent for a term of six years and six assistant superintendents, one each year for a similar term of six years. The change was intended to be something more than a mere change of name and tenure, and new rules have been adopted by the School Committee, giving large executive powers to the new officials. One of the assistant superintendents, who had been a supervisor and prior to that a master in the schools, described the change in these words:

"Under the old régime, when I was a supervisor, I could go into a school and I might advise as much as I liked, but I could not enforce anything. When I was master it was the same; while I had the utmost respect for the supervisor, I knew that he could not do anything. Now that is all changed; they have given us any quantity of duties, and they have given us the power to discharge those duties."

Under the rules the superintendent is still the executive officer of the School Committee in all matters relating to instruction, but he is so in fact and not merely in name. Subject to the approval of the committee, he appoints, reappoints, transfers and removes all members of the supervising force except the assistant superintendents and all teachers, consulting, in the original appointment or in the transfer of subordinate teachers, the principal of the school or district and the assistant superintendent in charge or the director of the special department affected; he may reprimand or suspend, with or without pay, for a period not exceeding one month, any member of the supervising staff or teacher for due cause, keeping a record of his action, with his reasons, open to inspection by members of the

School Committee; he may grant leaves of absence in accordance with the regulations; he may make such arrangements and give such instructions, not contrary to the rules and regulations and orders of the School Committee, to assistant superintendents, members of the supervising staff and teachers and to the truant officers as in his judgment the interests of the school system may require; and he has other executive duties set forth in the rules. He is required, except when the election or salary of superintendents is under discussion, to be present at all meetings of the School Committee, and he has the same right as a member to participate in debate and to present orders. He submits annually a printed report, giving an account of the duties he has performed, together with such facts and suggestions relating to the school system as he may deem expedient, and submits annually in print a statement of school statistics. He is a member and *ex officio* chairman of the Board of Superintendents, which meets practically every week during the school year.

The duties of the assistant superintendents, as a Board and individually, are many and arduous. The Board is required to give written opinions on any question when so requested by the superintendent, the School Committee or any member thereof who formally presents such request for insertion in the minutes. It prepares all courses of study, submitting the same to the School Committee for approval; determines the proper standards to be attained in each grade and class and the best methods to be pursued with respect to instruction therein; reports on books, globes, maps and charts before action by the School Committee; awards diplomas to graduates; prepares for and conducts examinations of candidates for certificates of qualification as members of the supervising staff, teachers and interpreters; and performs other duties set forth in the regulations.

Each assistant superintendent is the direct representative of the superintendent in the school or district to

which he is assigned, and as such has full authority, not contrary to the rules and orders of the School Committee or the instructions of the superintendent, with respect to all matters of organization, instruction and discipline; is required by the rules to visit the schools assigned to him, both day and evening, as often as practicable; and performs such other duties as the superintendent may direct.

Complaints have been made that the time of assistant superintendents is taken up with petty matters, mainly clerical, that more important matters suffer in consequence, and that the duty of visiting the schools is neglected.

The Finance Commission has caused a careful investigation of these complaints to be made, has had an examination made of the official minutes of the Board of Superintendents, in connection with the testimony of its members, and has considered such other evidence as it has been able to obtain. The superintendent and each assistant superintendent (except one new member recently elected) have been fully questioned, and have answered with the greatest freedom.

They point out that, while the schools have grown enormously in the thirty-six years since 1875, the number of assistant superintendents, six, is precisely the same as the number of supervisors in that year; and they assert that frequent visitation of all the classes in all the schools is impossible, in view of their growth in numbers, and of the many other quite as important duties which must be performed. But all the assistants state that they pay many visits to the schools and particularly to such teachers as have need of their help. They say that certain teachers whose qualifications are well known and who have demonstrated their efficiency need no visitation, the supervision of the master of the school being sufficient; that substitutes are cared for by the supervisor of substitutes and her assistant; and teachers of special subjects by the directors of those subjects.

The Finance Commission is satisfied that the assistant superintendents observe both the letter and the spirit of the rule which requires that the schools shall be visited "as often as practicable," and it believes that they are in no way chargeable with neglect of duty in this respect; but it is also satisfied that more frequent visitation of individual classes would be of benefit, and as this cannot be done by the present force of six assistant superintendents, that some method should be devised to meet this real need. It is possible that an enlargement of the department under the supervisor of substitutes, as hereinafter suggested, may help to solve the problem.

The commission believes that very little of the work performed by the Board of Superintendents is in any true sense petty and that many of the subjects considered are of large importance, requiring and receiving full and careful thought. There are, of course, many things done both by the Board and by the individual members which seem of a petty nature and consume much time; but upon examination these have been found to be quite as important as some of the seemingly larger matters. The schools belong to the people and must deal with all classes in the community,—with teachers, parents and children, and with a great variety of conflicting interests. Many of the questions which arise involve phases of human nature which must be handled with tact, patience and judgment, and cannot be delegated to subordinates. Each by itself may seem to an outside observer petty; but it is not so to the parties interested.

As to the charge that too much time is occupied with clerical work, all the members were questioned, and, while regretting that because of insufficient stenographic assistance they have been forced to do such work at all, they insist that the larger interests are not thereby neglected.

The superintendent was asked this question: "The criticism has been made that, in passing upon the

results of examinations, the Board of Superintendents merely performs the clerical duty of adding up the figures and passing upon the standing of candidates for appointment in a perfunctory way. Is there any truth in that?"

He answered that there was not,—the papers coming before the Board with the clerical work already performed in the office of the secretary. After giving an account of how the Board marked candidates for appointment as to length, quality and character of service, he added: "It is a pure question of professional judgment."

Q. "Do you believe that that is essential to the good of the service?"

A. "Very much more essential than the mere figures of their scholarship."

The superintendent made a similar statement as to examinations for promotions, and like testimony was given by the assistant superintendents. The superintendent said that another stenographer was needed, and another has since been provided. There are now two stenographers at the service of members of the Board; if more are needed, more should be provided.

4. *Principals.*

Each Latin and high school, and each elementary school district, is in charge of a principal. In the elementary districts there are usually several buildings in different parts of the district, over all of which the principal has supervision. Under the rules each principal is the responsible administrative head of his school or district and is charged with its organization; with the supervision and direction of teachers, pupils and employees; with the enforcement of the rules and regulations and such directions as he may receive from the superintendent or assistant superintendent or the School Committee; and with the general maintenance of order and discipline. Among other important duties

is that of personally inspecting the work of teachers and others who are on probation and reporting thereon to the superintendent.

All complaints from parents or guardians are, in the first instance, referred to the principal, who is required by the rules to "patiently hear and impartially investigate the same, using his best endeavors to redress any real grievances and referring such as he cannot satisfactorily adjust to the assistant superintendent in charge."

The powers of the principal are quite broad, and amply sufficient for the development of any valuable personal qualities he may possess.

The keeping of records and the making of reports of various kinds, much of which is of a clerical nature, require much of the time of a principal or of his assistant. To relieve the Latin and high school masters from the clerical work, the position of clerical assistant was established in 1908. Efforts have been made to secure clerical assistants for the masters of the elementary schools, but thus far the School Committee has not felt justified in authorizing the large expenditure involved. It would probably prove an actual economy, however, as clerical work ought not to be done by such highly educated and highly paid officials.

5. *Directors and Supervisors of Special Subjects.*

To secure more effective supervision of certain special subjects the following officials have been appointed, some prior to and some during the "period," all subject to the authority of the superintendent:

1. Director of drawing and manual training.
2. Director of evening and continuation schools.
3. Director of kindergartens.
4. Director of music.
5. Director of school hygiene.
6. Supervisor of substitutes.
7. Supervisor of household science and arts (which includes cookery, sewing and industrial work for girls).
8. Supervising nurse.

The criticism has been made that some of these positions are superfluous and only add to the school expense without giving a corresponding value; but this has not been found to be the case. These directors and supervisors supply a need which is not otherwise met. Moreover, most if not all of them are essential parts of a well-considered administrative system.

6. *Secretary to the Superintendent.*

With the reorganization of the school system in the "second subperiod," a greater degree of executive responsibility was centered, as has been shown, in the office of the superintendent. There had been attached to the office a chief clerk, whose duties, as the name implies, were mainly clerical. The new situation made it desirable that there should be in the office a representative of the superintendent, capable of assisting him on the larger side of his work, who could on proper occasions assume responsibility. As the duties and responsibilities had changed it was felt that the title also should be changed; accordingly last year the School Committee voted to raise the rank and title of the office from chief clerk to that of secretary to the superintendent. This action was criticised at the time and the increase of salary which accompanied it was passed over the Mayor's veto, but the Finance Commission believes the change was justifiable and in the line of wise administration.

7. *Truant Officers.*

The laws of Massachusetts in regard to school attendance and truancy are quite stringent. In 1898 (Acts of 1898, ch. 496) there was a complete codification, embodying many carefully considered amendments and improvements of the laws. The age requirement, which had been "between the years of eight and fourteen, and in cities and towns where industrial training is taught between the ages of eight and fifteen," was changed to "between seven and fourteen years of age," and this in 1905 (Acts of 1905, ch. 320) was further amended to

include children "under sixteen years of age who cannot read at sight and write legibly simple sentences in the English language." Illiterates over fifteen and under twenty-one are required to attend evening schools or a day school.

The provisions of the law are complicated and not readily understood; there are many exceptions to it, making it difficult of enforcement. Certain children are naturally truants; and in addition there are needy parents who are anxious that their children shall begin to earn money as soon as possible, and who, not realizing the great wrong they are doing the child, connive at any evasion of the law. For these reasons a strong force of truant officers is necessary to secure attendance and to perform the many duties which the law and custom place upon them. In addition to their regular duties they co-operate unofficially but effectively with the Overseers of the Poor and various philanthropic organizations and individuals.

In 1897-98 there were nineteen truant officers, including the chief, and in 1910-11 there were twenty-two, all appointed from the civil service lists.

In 1898 the number of cases investigated by the truant officers was 22,256, of which 6,700 were found to be truants and 270 were complained of as incorrigible. (School Document No. 13 of 1898, page 10.) In 1910 the number of cases investigated was 46,508, of which only 5,302 were found to be truants and only 249 were brought before a court. Thus while the number of pupils in the day schools increased about one third, the number of cases investigated more than doubled, while the number brought into court actually decreased. This indicates more thorough investigation and more successful handling of the cases.

SECTION 3. BUSINESS MANAGEMENT.

1. Auditor.

Prior to 1906 the business affairs of the schools, under the rules, were in the hands of the Committee on Sup-

plies (which purchased supplies) and the Committee on Accounts (which audited the school expenditures). The Acts of 1875, chapter 241, section 4, required the School Committee to choose an auditing clerk, which was accordingly done. In 1879 the present auditor was chosen auditing clerk, and he has held the position ever since, a period of thirty-two years. In that capacity he was clerk of the Committee on Accounts. The duties of auditing would seem to preclude the possibility of the same person acting as auditing clerk and purchasing agent; but as the Committee on Supplies needed a purchasing agent and as the auditing clerk developed a remarkable power of shrewd and close buying, they were glad to avail themselves of his services. For many years the present auditor acted in the dual capacity of purchasing agent for the Committee on Supplies and auditing clerk for the Committee on Accounts.

In 1906 this anomalous situation was abolished, at least temporarily, by the establishment under the Acts of 1906, chapter 318, of the separate offices of auditor and business agent. With the reduction in the size of the School Committee, the Committees on Supplies and Accounts disappeared and their duties were transferred to the auditor and business agent. The auditing clerk was continued as auditor, but he was not confined to the duties properly belonging to his office and he continued to discharge the duties of a purchasing agent, while the new business agent was given the duties of auditor. No serious harm seems to have resulted from these misnomers, but there is no good reason for their continuance. The auditor clearly should audit and the business agent should transact business. At the present time the old situation has been revived, through a leave of absence accorded the auditor in recognition of his long and faithful service and the appointment of the business agent as acting auditor; so that the purchasing and auditing are again in the same hands, which manifestly should not be allowed to continue for any length of time.

Under the rules the auditor is the executive officer of the School Committee with respect to the purchase, storing and distribution of all supplies for use in the school system, including printing, postage and the transportation of pupils. He is required whenever possible to obtain competitive bids for furnishing any article or articles the estimated cost of which is in excess of \$100, and unless the School Committee otherwise directs he must advertise in the *City Record* for proposals to furnish any article or articles except books the estimated cost of which is in excess of \$500, and can authorize no single expenditure in excess of \$500 without the authority of the School Committee. He must certify to correctness of purchases and charges, prepare the annual appropriation order and submit to the School Committee an annual report. He is under bonds in the sum of \$10,000.

The Finance Commission has had the books of the auditor and the methods of purchase carefully examined by a competent accountant, and is satisfied that purchases are made with great economy and that there is little or no opportunity for retrenchment in matters under his jurisdiction. There has been some question as to whether books are purchased at as low prices as in several cities in the South and West. In Boston books are bought as needed and not, as in certain other cities, by contract for a term of years. The auditor has felt that, owing to the changes in the authorized lists from time to time, and also because of large allowances which he receives in exchanging old books for new, this system of buying is on the whole the most economical. The contract system is sound whenever it is applied to supplies which need not be changed. Text-books, however, must be changed as better books are published, for the interests of education are paramount. Therefore it might prove embarrassing to have a large outstanding contract for books which had become practically obsolete. Whether a contract system for the purchase of text-books can be devised which will safeguard the

interests both of education and economy is a question which should be carefully studied by the School Committee. If such a system can be devised it should be adopted.

The quarters occupied by the supply room are wholly inadequate and are not creditable to the city. Members of the commission have visited them and have been astonished at the effective work done by the auditor and his subordinates under such unfavorable and discouraging conditions.

2. *Business Agent.*

This office was established in 1906, as already described. The work to be done had grown enormously since the office of auditing clerk was established in 1876, and a division on that account alone was necessary, aside from the doubtful policy of combining the duties of purchasing and auditing in one person.

Under the rules the business agent is required to keep a complete set of books, giving a full account of the receipts and expenditures of the School Committee; submit monthly statements and an annual report to the School Committee; prepare pay rolls, examine and certify to the correctness of expenditures and prepare monthly requisitions on the City Auditor; make out bills for tuition of nonresident pupils and send the same to the City Collector; and generally to keep a careful oversight of all expenditures and call the attention of the School Committee to any expense which may seem to him unnecessary, wasteful or in excess of proper requirements. Before final action is taken upon any changes in the school system involving additional expense, his report must be received. He is under bonds in the sum of \$10,000.

The School Committee has been fortunate in securing for this position a graduate of the Institute of Technology and a man of large intelligence. He has taken an active part in the attempt to improve the form of school reports in the different cities of the country,

in order that unit cost comparisons may be made of the different school systems, now practically impossible because of the variety of methods in making up reports. He is one of a committee appointed by the National Association of School Accounting Officers to draft a plan of standard school reports.

An examination of the annual reports of the business agent will show how valuable his work has been, particularly in the analysis of the cost of the different school activities. The Finance Commission has had the books and the business methods of the office examined by a competent accountant, whose report is most favorable.

3. *Board of Apportionment.*

No absolute line can be drawn between the business and educational side of school work. Every educational plan involves the expenditure of money and there should be some tribunal to consider both the educational and financial sides and decide between conflicting educational interests as to which at the time is the more needed. For this purpose there has been established a Board of Apportionment, consisting of the Board of Superintendents, the business agent and the auditor, with the secretary of the School Committee as its secretary. This Board meets once a month, prepares a detailed list of expenditures for supplies and incidentals to be furnished during the financial year, within the limits of the appropriation; studies the matter of the proper distribution of supplies among the different schools, and acts generally as an advisory board in financial matters. In passing upon the various subjects the Board of Superintendents has two votes and the auditor and business agent each one vote, thus keeping an even balance between the educational and business departments.

4. *Schoolhouse Custodian.*

Counting all buildings, large and small, on January 31, 1911, there were 236 permanent school buildings, beside 111 portable buildings and headquarters in twenty-nine

buildings, located in all parts of the city from East Boston and Charlestown to the extreme parts of Brighton, West Roxbury and Dorchester. It is of course impossible for the members of the School Committee to have a personal oversight of these buildings and of the janitors in charge. To meet this need the office of school-house custodian was established in 1902. He is the executive officer of the School Committee in all matters relating to the care and custody of land and buildings used for school purposes, except the Mason street building, which is the central school administration building. He exercises general supervision and control (except in the Mason street building) over the janitors, engineers, their assistants and the matrons, and, subject to the approval of the School Committee, he makes appointments, transfers, suspensions and removals. He visits and inspects the school buildings, advises and instructs employees and sees that the rules and regulations for their government are strictly enforced, reporting cases of negligence or inefficiency. He countersigns requisitions for fuel and janitors' supplies and verifies the janitors' pay rolls. He keeps watch on the consumption of coal, gas and electricity, comparing the consumption of each year with that of previous years, to prevent waste. The appointment is made from the civil service list, after competitive examination.

A few months ago an automobile costing \$1,000 was purchased for the use of the custodian in visiting schools. No chauffeur is employed, the machine being run by the custodian. This purchase has been criticised, but the Finance Commission believes the expenditure entirely justifiable, as it will enable the custodian to visit the schools more frequently and to use his time to better advantage.

5. *Schoolhouse Service.*

With the advent of the new buildings a great change has taken place in what is still called the "janitor service," but which could more properly be called "school-house service," since the work has increased enormously,

and now requires engineers, matrons and a large number of subordinate employees.

Not only has the work increased, but a higher type of employee has become necessary, because of the elaborate and complicated systems of heating and ventilation and the consequent increased responsibility. Any workman of average intelligence could take care of the old-fashioned furnace or stove; it requires a trained engineer to care for the present school plants.

Janitors and engineers by law are appointed from the civil service. In 1902 a system of promotion for merit was established by the School Committee. A record is kept of each janitor, based upon percentage marks made by the schoolhouse custodian on a carefully weighted scale, which takes into consideration different classes of service, estimate of character and length of service. The masters of the schools also give general ratings of "excellent," "good," "passable," or "unsatisfactory," which are taken into consideration when promotions are made. As a result the schools are cared for with few, if any, exceptions by an efficient, faithful corps of high character. While the cost is large the city gets a full return.

6. *Trial Board for Janitors.*

To secure a careful investigation of complaints made against janitors there was established last year a Trial Board, consisting of the secretary of the School Committee, the business agent, and a school janitor elected by his associates, whose duties are to hear charges preferred against any janitor, engineer or matron, and to report their findings and recommendations to the School Committee. This does not involve any extra expense, for the members serve without pay.

SECTION 4. THE SECRETARY OF THE SCHOOL COMMITTEE.

The office of secretary is often merely clerical, but this is not true of the secretary of the Boston School Committee. Elected to the position in 1896, the present

secretary has for fifteen years been a devoted, intelligent and accurate student of school affairs, and has accumulated in his office a vast amount of useful information.

He is secretary not only of the School Committee but of the corporation, the Board of Superintendents, the Board of Apportionment, the Board of Trustees of the Permanent School Pension Fund and the Board having charge of the sale of school property. He is also a member of the Janitors' Trial Board, already described. He is custodian of the Mason street building. His duties are of the most varied character, on both the educational and business side of school work, and require a man not only of ability but of large knowledge, sound judgment and consummate tact.

The Clerical Force at School Headquarters.

Unfavorable comment has been made upon an alleged large clerical force at the school headquarters on Mason street, and this sometimes results in an unjust reflection upon the secretary's office. For example, the statement was made by a master of a school who has a high reputation for fairness and accuracy that "the secretary's office has increased the clerical force tremendously." This view is held by many.

The facts are these: In 1898 the secretary had in his office one messenger, four assistants and one-half of the time of a fifth assistant; in 1905 he had five assistants and half the time of another; in 1907, and since, he has had five assistants; and during the whole time one messenger. Although the work during the period has very largely increased, the number of assistants has thus remained practically the same, a somewhat remarkable and creditable instance in municipal management. In addition to those already mentioned there are two assistants nominally attached to the office of the secretary in his capacity as secretary of the Board of Superintendents; one of them appointed last December, whose duty is to render clerical aid to the assistant superintendents. In the summer, or when not otherwise

occupied, both help in the regular office work. There is also a telephone switch board operator who is nominally attached to the secretary's office but whose duties relate to all the administrative departments. It is only fair to the secretary that the misstatement as to the "tremendous increase" of his clerical force should be corrected.

In view of this and similar criticisms a study has been made of the force at Mason street, in connection with all the officials, including the superintendent, Board of Superintendents, directors of various special departments, business agent, auditor, supply department and schoolhouse custodian. The nature and extent of the work assigned to each employee has been carefully examined.

Connected with the superintendent's office there is a secretary (formerly chief clerk) and nominally nine assistants, with half the time of a tenth assistant. This seems a large number, but only four give full time to the superintendent's work; two are in a separate office working on newsboy licenses and age and schooling certificates required by law; one is specially assigned to the director of school hygiene; one gives half-time to the supervisor of substitutes and half-time to the superintendent; one divides her time between the director of kindergartens, the supervisor of household science and arts, the director of music and the superintendent; and one gives half-time to the director of drawing and half-time to the business agent. There is also a special inspector of school certificates.

In the business agent's office there are eight assistants and a ninth on half-time.*

In the auditor's office, which includes the supply department, there are twelve employees, including those who handle and distribute the supplies, which involves much detail work, under very difficult circumstances.

In the office of the schoolhouse custodian there is one assistant.

*One additional clerk appointed since Sept. 1, 1911.

As a result of its investigation the Finance Commission is satisfied that the necessary school work is done with as few employees as is consistent with its proper performance. The commission has been particularly impressed with the economical system of dividing labor on half-time between different offices or interests. This is contrary to the usual municipal practice and shows that places are not manufactured simply for the purpose of providing jobs. The report of the examiners for the commission states: "In our inquiry we found the clerks to be uniformly interested and conscientious, doing their work intelligently and in many cases working overtime."

The nature of school work makes overtime necessary, and this occurs constantly in all the offices, but no extra payment is made. In his annual report for the current year the business agent says:

"It has only been by working the entire force many hours overtime during the last three years that it has been possible to handle the work of the office and at the same time put into effect the substantial changes in the accounting system necessary to adapt it to our needs."

The employees are all taken from the civil service lists.

SECTION 5. MINORS' LICENSES.

For many years licenses to minors to work as bootblacks or sell or expose for sale newspapers, fruits and other articles, were issued by the City Hall authorities, and the School Committee had no power of any kind in the matter. In 1898 an inquiry was made and it was found (School Document No. 13 of 1898, page 7) that of the 1,489 holders of minors' licenses, 967 were under fourteen years of age and 212 under ten years of age. There were 945 bootblacks and newsboys selling without a license. Very slight attempts were made by anybody to enforce the terms of the licenses issued. It was a poor way to teach respect for law when the city charged with the children's education allowed many of them to violate without hindrance its own law regulating these occupations.

In 1902 (Acts of 1902, ch. 531) the power to license minors under fourteen years of age was transferred to the School Committee, with great advantage to the children and to the schools. In 1908 one of the truant officers was made supervisor of licensed minors, and a careful oversight of the licenses has since been kept.

Licenses to minors of fourteen years of age and over are still issued from City Hall, and this divided jurisdiction is unfortunate. The School Committee ought to have power at least over all minors who attend school, whatever their age.

SECTION 6. NEWSBOYS' TRIAL BOARD.

To obtain the active co-operation of the newsboys themselves in enforcing the rules as to licenses, a Newsboys' Trial Board was established last year, consisting of five members, two adults to be appointed annually by the School Committee, and three to be elected annually by the licensed newsboys from the number of newsboy captains. These captains are elected annually in each school or district having in attendance ten or more licensed newsboys, and it is their duty within their school or district to watch carefully the conduct of licensed newsboys and to report all violations of the terms of a license. The Trial Board has jurisdiction over all newsboys attending the Boston public schools, and it is its duty to investigate, and make findings and recommendations to the School Committee. The adult members serve gratuitously, but the newsboy judges and the clerk are paid 50 cents for their attendance at each of the official sessions of the Board.

This is a somewhat novel experiment from which much good is expected. It has the tentative approval and co-operation of the judge of the Juvenile Court, who frequently suspends cases brought before him and, after referring them to the Trial Board, accepts its findings. The machinery has not yet been fully perfected, some friction has developed, and it may be said to be still in its experimental stage.

CHAPTER III. SCHOOL BUILDINGS.

The problem of the proper housing of the school population, involving lighting, heating, ventilation, sanitation and protection against fire in both old and new buildings, has had special attention during this period (1898-1911).

SECTION 1. OLD BUILDINGS.

For many years there had been well-founded complaints of the unsanitary condition and the lack of protection against fire in the older buildings. Both state and city Boards of Health had called repeated attention to the pressing needs on the sanitary side, and the inspector of buildings had urged that appropriations should be made for additional means of egress and fireproofing. The funds provided by the City Council (\$300,000 in 1896 and \$100,000 in 1897) were insufficient to make the necessary changes and in a large number of schools the children were left unprotected. After the right to make its own appropriations was vested in the School Committee both these matters were taken up seriously, and in 1900 elaborate reports were made to the School Committee at its request by the Board of Health (School Document No. 6 of 1900) and the Fire Commissioner (School Document No. 16 of 1900), showing a startling state of affairs in these respects.

1. *Sanitaries.*

In a number of the schools it was found that the pipes which supplied fresh heated air to the class rooms were located in the same room with the water-closets and urinals and in some cases directly over them; in a number of instances the joints and slides were not tight, and thus the foul air was transmitted to the class rooms. In many of the schools the sanitaries were primitive and in an offensive condition. A large number of the teachers' water-closets were "long hopper or pan closets," in dark and unventilated rooms. Many sanitaries were

located in the yards, separated from the main buildings, and were not heated in winter; in going to and from them and in their use the health of pupils and teachers was endangered.

2. *Fire Protection.*

Many of the large schools occupied by many hundred children were also without fire escapes. Some of the so-called "escapes" were mere traps, pronounced by the district chiefs to be "entirely unfit for the use of children." They were described as "of the folding kind, *locked on the bottom*, which have to be unlocked before they can be let down, and it will take five or six minutes at least before they can be let down, and the children between the ages of five and twelve would not be able to come down on them." In some cases the children would have to climb on sills, which the average child could not do, to reach these "escapes." One district chief made this comment as to a large school in the most thickly populated and dangerous part of the city: "This escape in my opinion is useless, as I do not think either teachers or children could use it."

3. *Remedies.*

Large sums of money have since been spent to remedy these conditions. It is difficult for one unfamiliar with the situation a dozen years ago to realize the radical changes that have taken place. The sanitary conditions are in the main satisfactory, and as to fire protection the Schoolhouse Commissioners, in their report for 1909-10, say: "Taken as a whole the great majority of school buildings are in a safe condition, and there are none where the conditions endanger the children."

Most fires start in the basement; and accordingly in almost all the buildings the basements have been made fireproof. In their report for 1910-11 the commissioners say: "It will be the policy of the Board to continue this work by doing as much as they can with the funds at their disposal." It is needless to say that there ought

to be no question of funds in such a matter, and complete protection in all schools should be provided at once.

In 1907 a careful study was made by the Schoolhouse Department of the system of fire-alarm and fire-drill signals, and new and improved devices have been installed in 162 buildings, which are practically all of the old buildings containing five rooms or over. Eighteen new buildings of first-class construction still remain to be equipped. There are also thirty-two old buildings which have not yet been provided with auxiliary connection to the Fire Department, although they are equipped with the interior system. The department now has on hand nearly enough apparatus to complete the installation of the new system in the eighteen buildings above referred to. The excuse offered for delay was "lack of funds."

SECTION 2. NEW BUILDINGS.

1. *Changes in Jurisdiction.*

The evils of a divided jurisdiction between the School Committee and the City Council were early felt in the matter of the erection of new school buildings. The School Committee could only recommend that schoolhouses be erected and improved; the power to act lay with the City Council. (Acts of 1875, ch. 242, sec. 6.) In consequence the constantly growing needs of the school population were neglected and the situation became critical. Public opinion finally was aroused, and by successive legislative acts (1889, ch. 297; 1890, ch. 355; 1895, ch. 408; 1897, ch. 442; 1898, ch. 149 and ch. 400; 1899, ch. 362; 1901, ch. 448) all power over school matters, including new buildings and appropriations therefor, was transferred from the City Council to the School Committee, subject only to the approval or veto of the Mayor.

In 1901 (Acts of 1901, ch. 473) the Schoolhouse Department was established and the duty of selecting land for school purposes and building, furnishing and

repairing school buildings was transferred from the School Committee to the new department.

2. *Waste.*

There can be little doubt that prior to the establishment of the Schoolhouse Department in 1901 there was enormous waste of money in the purchase of land and the construction and furnishing of buildings under the School Committee, a body in no way fitted to deal with such problems. That there was also waste and undue cost, although not to the same extent, under the Schoolhouse Department has been shown in the report on that department by the first Finance Commission. (Vol. 1, p. 368.)

A part of this waste was due to the political conditions under which the work was done. The rights of the children were forgotten and the mischievous belief (widespread in municipal affairs) that the city must expect to pay more than anybody else was acquiesced in. A part, however, was due to inexperience and a lack of knowledge on the part of those in charge, and much experimental work proved costly. Fortunately this experimental stage has now passed by; under the skillful guidance of an accomplished architect, for many years chairman of the Schoolhouse Commission, there has been developed a scientific system upon which our newer school buildings have been erected. There has been criticism of such buildings, however, on the ground that they were of too expensive a type and that simpler and less costly buildings would have answered the requirements and made possible the erection of more buildings for the same money. Other municipalities erect school buildings at less cost which answer every practical purpose. In the opinion of the Finance Commission no effort should be made hereafter to erect monumental buildings for schools, but the aim should be to provide plain and substantial structures at moderate cost.

3. *Changes in the Personnel of the Schoolhouse Commission.*

The chairman who had done so much for the schools resigned suddenly in June, 1910; the term of office of one of the other two members of the Board had expired in May of the same year, and subsequently the third member resigned. Thus in a short time the entire personnel of the Board was changed at the busiest and most critical period of the year. The Finance Commission has recognized the difficulties of the situation, and has watched with interest the work of the department under the new management, making suggestions from time to time which have been received by the Board in a friendly spirit. It is not prepared at this time to make further comment upon this branch of the school work except to say that it is glad to note the effort of the Board to lower the cost of schoolhouses by adopting a reasonable and entirely safe modification of so-called "first-class construction." The use of the words "first class" and "second class" in this connection is entirely misleading; the expressions are purely technical; there need be nothing inferior or dangerous in "second class" work, and in proper localities it should be used. The shifting of the school population from one part of the city to another and the inevitable reduction of the size of classes, and consequently of class rooms, make it undesirable to erect a needlessly permanent class of school buildings.

4. *List of New Buildings.*

From January, 1898, to February, 1911, there have been completed the following new school buildings:

1898.	
Brewster Annex	2 class rooms.
Frothingham Annex	2 class rooms.
Glenway Annex	2 class rooms.
Noble Annex	2 class rooms.
Paul Revere	18 class rooms.

1899.	
Benjamin Dean	8 class rooms.
Bowditch (addition)	2 class rooms.
Francis Parkman	4 class rooms.
Henry Vane	4 class rooms.

1900.

Adams and Chestnut Streets	2 class rooms.
Phillips Brooks	15 class rooms and hall.
W. L. P. Boardman	8 class rooms.

1901.

Rigelow	19 class rooms and hall.
Chapman	17 class rooms, hall, manual training and cooking room.
Copley	8 class rooms.
Dorchester High	15 class rooms, hall, gymnasium, 4 recitation rooms, typewriting room, library, botanical, zoological, physical and chemical laboratories.
East Boston High	11 class rooms, 4 study rooms, office, drill hall, assembly hall, reception room, physical and chemical laboratories, drawing room, library, 3 teachers' rooms, master's room, biological laboratory, 2 bookkeeping rooms, shorthand room, typewriting room, book room, manual training room, lunch room, locker rooms.
Ira Allen	6 class rooms.
Lewis Annex	1 manual training room.
Roger Wolcott	15 class rooms, hall, manual training room, cooking room.
Winship	12 class rooms, manual training room, cooking room.
South Boston High	17 class rooms, 2 recitation rooms, drawing room, chemical and physical laboratories, botanical laboratory, handicraft room, library, reception room, teachers' room, 2 halls.
West Roxbury High Addition	10 class rooms (2 large size), 8 recitation rooms, lecture room, physical laboratory, chemical laboratory, work room, assembly hall, principal's room, 2 apparatus rooms, lunch room.

1902.

Savin Hill Addition	2 class rooms.
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1903.

Hancock Annex	2 class rooms.
Marshall	15 class rooms.
William E. Russell	18 class rooms, cooking room, manual training room, hall.

1904.

Christopher Columbus	22 class rooms, 2 manual training rooms.
Ellis Mendell	12 class rooms.
Farragut	12 class rooms, cooking room, manual training room.
Jefferson	19 class rooms, cooking room, manual training room, hall.
John Boyle O'Reilly	13 class rooms, manual training room.
Oliver Hazard Perry	14 class rooms, manual training room, cooking room, hall.
Paul Jones	12 class rooms, cooking room, manual training room.
Washington	30 class rooms, manual training room, cooking room, hall (or playroom), gymnasium, roof playroom.
Francis Parkman Addition	4 class rooms.

1905.

Dearborn	21 class rooms, manual training room, cooking room, hall.
James Otis	12 class rooms.
John G. Whittier	10 class rooms.
Joseph Tuckerman	10 class rooms.

Mather	30 class rooms, cooking room, manual training room, hall.
Oliver Wendell Holmes	24 class rooms, cooking room, manual training room and hall (now has 3 manual training rooms).
Samuel W. Mason	14 class rooms.
*Sarah J. Baker	24 class rooms.
Thomas Gardner	14 class rooms, hall, manual training room, cooking room.

1906.

Nathaniel Hawthorne	9 class rooms.
William E. Endicott	10 class rooms.

1907.

Hobart Street Addition	2 class rooms.
Winchell School Addition . . .	6 class rooms.
Quincy Manual Training	4 rooms.
Normal Group.	

Normal School Handicraft rooms, teachers' work room, lecture room, 2 drawing rooms with work room, music room, psychology room, principal's room, reception room, rooms for men and women teachers, teachers' lunch room, library, history room, 2 rooms for English with work room, large and small room for geography with work room, 2 rooms for mathematics with work room, 2 rooms for instruction in kindergarten work, study hall, hospital room, 2 laboratories for physiology with work room, rooms for household science, containing kitchen, pantry, dining room, bed room; chemical laboratory and work room, physical, zoological and biological laboratories with work rooms between the last two.

Girls' Latin School Assembly hall, master's room, 2 teachers' rooms, 18 class rooms, 6 recitation rooms, library, lecture room, laboratory for physics, laboratory for botany.

* Model School (Patrick A. Collins, now used by High School of Commerce). Manual training room, cooking room, 16 class rooms, 2 kindergarten rooms, assembly hall.

Common Building Wardrobes, toilets, lunch rooms, dressing rooms, bath rooms and lockers, 2 gymnasiums, rooms for directors of physical training, small galleries for spectators in gymnasiums.

Charlestown High Gymnasium with dressing rooms, baths, lockers and drying room, wardrobes, lunch room, household science room, handicraft room, 9 class rooms, 4 recitation rooms, principal's room, 2 teachers' rooms, assembly hall, library, chemical and physical laboratories, lecture room, botanical and zoological laboratories, drawing room.

1908.

Francis Parkman Addition . . .	6 class rooms, manual training, cooking room, hall.
Mechanic Arts High Addition . .	26 class rooms, 1 forge room, 3 locker rooms, 1 lunch room, chemical and physical laboratories, library, drawing room, assembly hall, science lecture room.
Ellot Administration Building . .	Offices.

1909.

John Cheverus	16 class rooms, manual training room, cooking room, hall.
Edward Everett	14 class rooms, manual training room, cooking room, hall.
Longfellow Addition	8 class rooms.
Nathan Hale	12 class rooms.

* Certain changes have been made in the Patrick A. Collins School and the Sarah J. Baker School, to fit the buildings for the use of the High School of Commerce and the High School of Practical Arts.

1910.

Dorchester High Addition . . .	18 class rooms, handicraft rooms, including wood working, metal working and drawing, and typewriting room.
Girls' High Addition . . .	8 class rooms, gymnasium, lunch room, shower and locker rooms.
Blackinton Addition . . .	9 class rooms.
Doane House . . .	5 class rooms.
Peter Faneuil . . .	17 class rooms, manual training room.
Samuel Adams . . .	14 class rooms, hall, cooking room, manual training room.
William Lloyd Garrison . . .	10 class rooms.

A mere list of names of buildings can convey no real impression of the increase of or contrast in school accommodations. Some idea may be had when it is stated that in this period \$12,718,049.40 have been spent for this purpose. A few schools will be referred to as illustrating the change of conditions.

(a.) *Normal Group.*

The beautiful and impressive Normal Group on Huntington avenue, occupied in 1907 and since by the Normal School, Girls' Latin School and High School of Commerce, is the most important and expensive addition to the school buildings. The land (113,181 square feet) and buildings cost \$971,180.81, and the accommodations are in marked contrast to those previously provided. The Normal School for years had occupied cramped and inadequate quarters on the top floor of the Rice School on Appleton street, and the Girls' Latin School had occupied a rented building on Boylston street. The High School of Commerce, being then newly established, was in temporary quarters in the old Winthrop Street Primary School. In the new group every essential is provided; besides ample class rooms, recitation rooms and laboratories there are gymnasia, dressing rooms, baths and lockers connected therewith, and lunch rooms and wardrobes.

(b.) *High Schools.*

In 1901 the new Dorchester, West Roxbury, East Boston and South Boston High Schools, and in 1907 the new Charlestown High School, were opened.

The contrast between the old and the new high schools is remarkable. In 1898, at the beginning of the period under discussion, the Dorchester High School occupied an old-fashioned building on Dorchester avenue, containing 8 rooms, with an average of 291 pupils for the year and with 11 teachers. In 1901 the school was transferred to a fine new building on Talbot avenue, containing 24 rooms, a hall and a gymnasium, with an average of 745 pupils for its first year and with 23 teachers. It was supposed that this building was large enough to meet the needs of the district for many years, but it proved inadequate, and in 1910 an annex of 21 rooms was added, making in all 45 rooms, a hall and a gymnasium, the average number of pupils this first year being 1,408 and the number of teachers 48.

In 1901 the South Boston High School was first established, the new building containing 26 rooms and 2 halls, the average number of pupils for the first year being 469 and the number of teachers 19. In the year ending June 30, 1911, the average number of pupils had increased to 678 and the number of teachers to 29.

In 1898 the building but then recently built for the Mechanic Arts High School contained 16 rooms and the average number of pupils for the year ending June 30, 1898, was 313, with 13 teachers. In 1908 an additional building was erected with 33 rooms, making a total of 49 rooms, and the average number of pupils attending has increased for the current year to 1,301, and the number of teachers to 45.

In all these buildings gymnasias or drill rooms, laboratories and scientific or mechanical apparatus have been provided according to their varied needs.

(c.) *Elementary Schools.*

Prior to 1898 no elementary school building, grammar or primary, contained more than 16 rooms and a hall, the standard buildings containing 16, 14, 12, 10 or 8 class rooms.

In 1898 the Paul Revere School on Prince street at the North End was opened as a primary school with 18 class rooms, and it is noted as the first school in Boston to contain bathing facilities for pupils. Two sets of school baths were installed, one for each sex, at opposite ends of the basement. On the girls' side there were ten individual compartments, each containing a seat and a spray. No individual accommodations were provided for the boys, the showers being grouped in a space about 10 by 15 feet, so that as many as twelve pupils might bathe at the same time. Bathing facilities have since been furnished in the Bigelow School, South Boston, the Copley School, Charlestown, and in some of the other new buildings.

In 1904 the Jefferson School on Heath street, Roxbury, was opened with 19 class rooms and a hall, the Christopher Columbus School on Tileston street with 24 rooms, and the Washington School on Norman street with 30 class rooms. With the beginning of the present school year the Abraham Lincoln School was opened with 40 class rooms, hall, manual training and cooking rooms.

In 1905 the new Dearborn School, Roxbury, was opened with 21 class rooms and a hall, the Sarah J. Baker School on Perrin street with 24 class rooms, and the new Mather School on Meeting House Hill with 30 class rooms and a hall. The old Dearborn School had 14 class rooms and a hall and the old Mather School had only 10 class rooms and a hall.

CHAPTER IV. THE SCHOOL CURRICULUM.

SECTION 1. GENERAL VIEW.

As a preliminary to a study of this branch of the subject, a statement of the school system as it has stood in the different representative years is given. The following table shows the number of schools and districts in each year:

	1897-98.	1905-06.	1910-11.
Normal School.....	1	1	1
Latin schools.....	2	2	2
High schools..	9	10	12
Elementary school districts (including grammar, primary and kindergarten schools).....	57	64	65
School for Deaf (Horace Mann).....	1	1	1
School on Spectacle Island.....	1	1	1
Continuation schools.....			3
Industrial schools (day).....			2
Industrial schools (evening, formerly drawing).....	5	6	3
Evening high schools.....	4	5	5
Evening elementary schools	12	11	13

Each elementary school district contains several school buildings, so that the actual number of schools is very much larger than the figures would seem to show.

The Parental School, which is the county truant school, has never been in charge of the School Department, but it is conducted and the teachers appointed in accordance with the general rules and regulations of the School Committee, so far as applicable, and it is by law made "subject to the visitation and inspection of the School Committee of Boston."

SECTION 2. NORMAL SCHOOL.

A special report upon this school, which is the source of supply of most of the teachers in the schools, has been made by the commission and is annexed to this report as an appendix. The Legislature at its last session by resolve (Resolves of 1911, ch. 97) instructed the State Board of Education to consider the expediency of establishing in or near Boston a State Normal School for the training of elementary school teachers, or of accepting a transfer from the city to the Commonwealth of the Boston Normal School, or of making an agreement with the city whereby the state might pay for pupils there educated. The inquiry is now being made and a report will be submitted to the Legislature in January next.

SECTION 3. LATIN AND HIGH SCHOOLS.

All of the Latin and most of the high schools are cultural rather than vocational (in the modern meaning of that word) in their character; but all have practical courses which fit graduates for some phase of business life. The college courses in the Latin schools, the commercial courses in the English and Girls' High Schools, and since 1898 in all the mixed schools, have a vocational tendency, although subordinate to the cultural side. In June of the present year the School Committee voted to approve a plan outlined by the Board of Superintendents for the development of the vocational motive in high school work through lectures to be given by business men. An "intensified" commercial course for girls was established at the opening of the present school year in the Roxbury High School.

A report relating to the Mechanic Arts High School has already been made by the Finance Commission, which is annexed as an appendix to this report.

The High School of Commerce was established in 1906 to prepare boys for commercial life. There are two branches of work, the cultural and the industrial, the instruction in the first having a special bearing upon the second. The course for a diploma is four years, and there is a special course open to graduates of this and other secondary schools. During the school year visits are made to business houses for practical observation; and summer employment, through the co-operation of various merchants, is a feature. Traveling scholarships to Central and South America and Europe to observe trade conditions have been established by private contributions, and interesting reports of their trips have been made by the young men.

The High School of Practical Arts for girls was first suggested in 1897 in a carefully prepared report (Document No. 10 of 1897) of the superintendent and the Board of Supervisors, in which, in addition to various academic or cultural studies, it was proposed to give certain practical courses, the opinion being explicitly

expressed "that the proposed school, like the Mechanic Arts High School, should be independent of all other schools and should be fully organized and equipped within itself to do all the work required of it." It did not, however, actually take form until 1907, when it was established after a delay of ten years. Its course of study follows to a large extent the lines laid down in 1897, the industrial department having courses in dressmaking, millinery and household science. The full term is four years, two-thirds of the time being devoted to academic and one-third to industrial work.

Both the High School of Commerce and the High School of Practical Arts have a distinct vocational or practical side and each has attracted a large attendance and seems to be meeting a real need.

A summer high school has been opened in the Roxbury High School building for those children wishing to make up conditions and those preparing for college admission examinations and for admission to high schools.

During the "period" (1898-1911) and especially the "second subperiod" (1906-11) the high schools have been greatly strengthened, both on the administrative and educational sides. Heads of departments and high school councils have been established, and conferences of teachers have been held to secure uniformity of aim and greater effectiveness in teaching departmental subjects, also to consider problems of text-books, courses of instruction and kindred subjects not only within the schools but as between the different schools. A child going from one school to another, or from one class to another, need not lose time in the effort to adapt itself to an entirely new method, due to the whim of a new teacher. Freedom in teaching is accorded to each teacher, but along agreed lines laid down by the departmental conferences.

An elective system of studies was introduced into the high schools in 1901 and has been freely used, but it has been abused in some instances and has proved very costly.

Accordingly in 1906 there was a careful revision of the high school course of study, restricting, but without injuring, the freedom of electives, and establishing a standard of efficiency in certain subjects, such as English, a selected foreign language, mathematics, bookkeeping, history, science, physical training, hygiene and choral practice, as essential to obtaining a diploma. This has been amended and improved from time to time, especially in the preparatory courses for the Normal School. An equivalent of four years' attendance is also required for a diploma.

SECTION 4. ELEMENTARY SCHOOLS.

Some of the elementary schools are for boys alone, some for girls alone, but the large majority are mixed schools. In 1906 a petition was presented to the School Committee by 110 members of the teaching force in boys' schools, urging the abolition of separate schools, on the ground that separate schools make discipline more difficult and tend to increase corporal punishment; that they are unjust to the teachers, both as to discipline and the amount of work required. Nothing has been done, as the expense of the necessary alterations in the sanitary and other arrangements of the separate schools is practically prohibitive; but all new elementary schools built in Boston are for both boys and girls.

Elementary schools, according to the rules and regulations, comprise the following: kindergartens, the regular grades 1 to 8, inclusive, cookery, manual training and sewing classes. At the beginning of the period there was no such unity of organization, each class of school being in a certain sense an independent unit, with a resultant waste of energy through lack of efficient management.

The long struggle towards unification began in the days of Horace Mann, and the controversy between the "double headed" and "single headed" systems, as well as that between the primary schools and the grammar schools, is an interesting study in human nature.

The situation as to primary classes is well described

by the superintendent in his annual report for 1902, page 73, where he says the primary schools "had always been as independent of the grammar schools as the latter still are of the high schools. Not only this, but every primary school was independent of every other; and every primary teacher was independent of every other, even when there were two or more of them in the same building. Each teacher with her class was a school unto herself. Naturally enough the teachers who had been thus independent objected, in many cases, to coming under the authority of the grammar master."

Not until 1906 was the matter fully settled, and even now there are those who claim it was not settled right. In that year two important steps towards efficient school management were taken; the abolition of the distinction which had existed between primary and grammar schools and their merger as elementary schools, and the substitution of eight grades for nine.

For the purpose of a readjustment of the high schools to the new system of eight grades in the elementary schools, a committee of conference, known as the Committee on Betterments, was appointed, consisting of the superintendent, assistant superintendents, the high school principals and several high school and elementary school teachers, and this was followed by a general meeting of principals and teachers.

Suggestions have been made that the elementary schools have suffered from neglect because of the abnormal growth of the high schools. A study of the records and of the schools seems to disprove this. A very large part of the time and thought of the School Committee and the Board of Superintendents has been given to rearranging the courses of study in the elementary schools. Geography, spelling, arithmetic, penmanship, manual training, sewing, have each been carefully considered. Especial attention has been given to the so-called "three R's" to meet the criticism that they have been neglected. An elaborate revision of the courses of studies has been prepared with the assistance

of special committees, consisting of one or more assistant superintendents, directors, principals and teachers, thus receiving the benefit of the active co-operation of those who are actually to teach the courses. This was printed provisionally and submitted to the teachers for practical criticism and suggestions. In every way possible the active aid and co-operation of the teachers is invited.

This sometimes results in a great deal of extra work for the teachers, but with few exceptions they have shown a commendable desire to help. Complaints are sometimes heard of overwork, but the complainants should not forget the shortness of the school year and the great length of the vacations. The schools were in session last year only 182½ days.

The following table gives a fair view of the manner in which the time in the elementary schools is distributed between the different studies:

SUBJECTS AND EXERCISES AND THE NUMBER OF MINUTES A WEEK ASSIGNED TO EACH.

	GRADES.								Total Minutes.
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	
Arithmetic.....	25	210	210	270	270	230	210	210	1,635
Drawing.....	100	95	90	90	90	90	90	90	735
Elementary science.	30	30	30	45	45	15	15	60	330
Geography.....				150	150	150	150	90	600
History				30	30	120	120	150	450
Manual training or household science and arts.....		30	30	120	120	120	120	120	600
Music.....	60	60	60	60	60	60	60	60	480
Opening exercises.....	60	60	60	30	30	30	30	30	360
Physical training.....	60	90	90	80	80	80	80	80	640
Physiology and hygiene.....			30	30	30	30	60	60	240
Recesses.....	200	200	200	100	100	100	100	100	1,100
Reading and literature.....	735	480	455	190	190	165	150	195	2,560
Spoken and written English.....	230	245	245	305	305	235	235	255	2,150
Totals.....	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	12,000

Throughout the course an attempt is made to develop habits of study. Of the time assigned in the eighth grade, at least 240 minutes a week are under the rules allowed to each pupil for independent study, in which he is neither assisted by nor interrupted by the teacher. For example, 60 minutes a week in each of the following studies: Arithmetic, reading and literature, spoken or written English, history and geography. The minimum amount of time for independent study that is allowed is suggested in the following schedule:

Eighth grade, 240 minutes; seventh grade, 200 minutes; sixth grade, 150 minutes; fifth grade, 150 minutes; fourth grade, 150 minutes.

Certain subjects taught in the elementary schools are declared by critics to be mere "frills, fads and fancies," even sewing and cookery being condemned by some as a waste of time. The Finance Commission commends for thoughtful consideration the following extract from the report of the superintendent of schools for 1910:

"The elementary course also includes civics, geography, drawing, science, manual training, cookery, sewing and music. These subjects are not considered fundamental by many persons, and each at the time of its original introduction was opposed as a fad. These subjects have been included in the course of study because, in the minds of educators, training in how to think is an indispensable part of the life equipment of every pupil. The ability to meet new conditions, to form conclusions from new data and to adapt oneself to varying circumstances are essential requisites for success in our complicated modern life, and an education limited to habitual mental actions and immediately useful facts would fail to equip boys and girls for success in any but the lower levels. Modern conditions of living, especially in cities, have removed a large share of the opportunities outside of school to fill the life of the pupils with experiences of value on the judgment-forming side. The school has of necessity been compelled to make an effort to supply the deficiency. Subjects are but the tools with which to make a man,

and while the tools should be selected with care, the quality of the product will depend more upon the skill of the workman teacher and how he uses the tools than upon the tools themselves. The question is one of proportion and time — what subject to use each day and how much — and most discussions of separate subjects, whether complaints that they receive too little time or objections because they receive too much, miss the point at issue because they do not consider the whole problem as centering around and being unified by the child to be instructed."

It seems to the Finance Commission that the following facts are worthy of consideration in passing upon this matter: The so-called "fads and fancies" have forced themselves upon the schools as a result of a public demand, and they have continued in the curriculum because of this demand. Sewing, for example, was taught as far back as 1818 and probably earlier, and in spite of the critics it has held its place. The first cooking schools at the city's expense were opened in 1886, and the demand for their increase has been persistent. They had previously been supported at private expense, but succeeded only because they met an actual need. With the limited funds at the disposal of the School Committee, such costly subjects might continue for a few years while their special advocates were in power, but they could not survive for any length of time as against other pressing demands unless they possessed real value.

Experiments in industrial education have been carried on with varied success in the Hancock School at the North End, the Eliot School in the West End, the Agassiz School at Jamaica Plain, the Winthrop School on Tremont street, now merged in the Abraham Lincoln District; the Lyman School at East Boston, the Washington Allston School at Brighton, the Oliver Wendell Holmes School at Dorchester, the Quincy School at the South End and the Horace Mann School for the Deaf. An interesting and valuable account in detail of these

experiments is given in the report of the superintendent for the year 1910. (Document No. 10.)

SECTION 5. KINDERGARTENS.

Kindergarten schools are being somewhat curtailed at the present time, because of their cost. Last year the age limit of admission was raised from three and one-half to four years, and greater strictness has been demanded in proof of age before admission.

The forerunners of the kindergartens were the "infant schools," established more than one hundred years ago by private societies and individuals and vainly urged for adoption as a part of the public school system. In 1870 Boston had the honor of establishing experimentally what is believed to have been the first public free kindergarten in the world. (School Document No. 2 of 1888, page 18.) It was regarded as a success by the School Committee which was anxious to continue it and to enlarge the number of classes, but the City Council, which then controlled the purse, did not see the necessity, and in 1879 the school was closed for lack of appropriations. It was continued and others were added by private philanthropy, and in 1888 public opinion was so strongly in its favor that the kindergarten was again taken into the school system.

SECTION 6. SPECIAL SCHOOLS AND CLASSES.

(a.) *Horace Mann School.*

In 1869 the Horace Mann School was first opened with the oral system of instruction for the deaf which Horace Mann had observed in Germany and brought to public attention in this country twenty-five years previously. As was stated at its dedication, this was the first public day school ever opened to deaf children. The new experiment was to demonstrate that to the deaf as well as to others all the advantages of school education can be extended without separating them from their homes. The course of study is substantially

the same as that prescribed for the other elementary schools of Boston, the attempt being made to make as little difference as practicable, having regard to the circumstances and to the necessities of the situation. The school is one of which Boston is justly proud.

It was in this school that Helen Keller, born both deaf and blind, was taught to speak. An extremely interesting account of this great triumph is given by Miss Sarah Fuller, for many years the principal of the school, in an appendix to the superintendent's annual report for 1903. (School Document No. 3, pages 159-167.)

The state in 1885 (Acts of 1885, ch. 201) granted to the city the land on which the school stands on Newbury street, conditional upon the erection of a school thereon, but in 1905 (Acts of 1905, ch. 467) released this condition, provided that if sold the proceeds should be used for another site for the school. The present quarters are insufficient and a new building should be provided. In the effort to supply the needs of other interests this unfortunate class in the community ought not to be overlooked.

The pupils of this school are sent by the state from all parts thereof and are not confined to citizens of Boston. The state pays the larger part of the cost of the school.

(b.) *Spectacle Island School.*

The school on Spectacle Island is a local elementary school established on an island in the harbor to provide for the children of employees in an industry there conducted. There are about a dozen pupils and but one teacher.

(c.) *Special Classes.*

In each elementary district one or more ungraded classes is authorized in which the instruction is adapted to the conditions in the class and modified to suit these conditions. No pupil can be placed in such a class for misconduct unless expressly authorized by the assistant superintendent in charge, as the classes are in no sense

disciplinary. There are many reasons for their existence, as, for example, the presence in a district of immigrant children who are as yet unfamiliar with the English language and who need special assistance. As stated by the superintendent, "the purpose is to give special help to those pupils who need it and to return them as soon as possible to the regular grades."

A disciplinary class has been established experimentally, in which an attempt is made to take care of boys who might otherwise be sent to the Parental (or truant) School; and there are special classes for the mentally deficient, as hereinafter described.

SECTION 7. EVENING SCHOOLS.

One of the great troubles with which those conducting evening schools have had to deal is the fluctuation of the school population and the difficulty of holding the attention of pupils. A strong effort has been made to strengthen these schools and to make sure that the money expended is not wasted. Opportunity is afforded to those who care to avail themselves thereof to obtain not only a good education in the ordinary school subjects but also in commercial and industrial branches. Typewriting, bookkeeping, salesmanship, dressmaking, sewing, millinery, embroidery, domestic science, cookery, wood and iron working, are among the industrial subjects taught. To secure a steady and interested attendance, a new rule has been established for the coming year, under the authority of the Acts of 1911, chapter 309, under which each pupil in the evening high schools, who is not bound by law to attend, will be required to make an advance payment of \$1, which will be refunded at the end of the school year if the pupil has attended at least two-thirds of all sessions held during the year or three-fourths of those held after January 1.

All doubt as to whether or not these schools are doing good work and are meeting an actual demand from the people would be set at rest by a visit to the English High School building on Montgomery street on some

evening when the schools are in session. The whole building is alive with interested humanity. With the opening of the schools this year men only are to be admitted here, the women being transferred to a new school to be established in the Girls' High School building on West Newton street.

SECTION 8. INDEPENDENT INDUSTRIAL SCHOOLS.

The tendency at this time among certain educational authorities is strongly in favor of an extension of the so-called vocational or industrial as distinguished from the cultural side of education, and this has shown itself as already outlined in the day schools. There is great danger, however, of carrying this tendency to an excess, and of breaking down existing institutions which are doing good work, in an attempt to graft upon them or to substitute something new. The establishment of industrial schools by cities and towns was first authorized by the Legislature in 1872 (Acts of 1872, ch. 86) and many experiments therein have been since tried in Boston. In cities having twenty thousand or more inhabitants manual training was made compulsory by law in high schools in 1894 (Acts of 1894, ch. 471) and in elementary schools in 1898. (Acts of 1898, ch. 496.) In 1906 a state commission, appointed to study and report upon the subject of industrial and technical education, reached the conclusion that "manual training as administered in the schools did not meet the needs of a distinctly industrial or vocational education." Legislation followed (Acts of 1906, ch. 505; Acts of 1909, ch. 457 and ch. 540), authorizing the establishment, subject to the approval of the State Board of Education, of so-called "independent industrial schools" by cities and towns as agents of the state. These industrial schools as defined and administered by the State Board of Education are likely to prove very costly, a fact which of itself is of course not a final adverse argument, but it is a factor that must be taken seriously into consideration. It is true that the state will pay one-half of the

cost, but Boston must repay one-third of this one-half in its share of the state taxes; and, as shown in the report of this commission on the Mechanic Arts High School, the increased cost of carrying on the school will bring as a final result an actual financial loss to the city. This loss is not to be counted against a real educational gain; but to what extent such a gain will result is the problem involved. Great caution should be exercised by the School Committee in its consideration.

At the present time there are two day independent industrial schools conducted by the city as agent for the state, one-half of the expense being borne by the state. These are the Pre-Apprentice School of Printing and Bookbinding and the Trade School for Girls.

The first of these was established in the Lyman District, East Boston; the bookbinding class, December 1, 1909, and the printing class, January 31, 1910. The course of study includes mathematics, English, industrial history, current events, spelling, drawing and practical printing and bookbinding. The material furnished for bookbinding work consists in part of old text-books from the schools.

The Trade School for Girls had been for several years conducted as a private school, and the pupils and teachers were transferred together to the public school system on September 15, 1909. The school is established for the purpose of giving a trade training to girls between the ages of fourteen and eighteen years who are obliged to become wage-earners. Pupils are admitted conditionally for one month and not allowed to continue if at the end of that time it appears that they are not adapted to the work. Four courses are given — dressmaking, millinery, straw machine operating and clothing machine operating, and with each course the pupil is required to study spelling, business forms, business English, textiles, color and design, cookery and physical exercise. Domestic science is taught in connection with the daily luncheon at the school. The care of the body, the necessity of proper food, sleep and exercise, correct standing and

sitting, the need of fresh air and the relation of personal hygiene to success in life are emphasized. The school more than pays for the materials used in its conduct, as the work is sold at shop prices, the aim being to make each girl appreciate that here, as in her future life, she must meet competitive conditions in the open market. There is a summer term, but, owing to lack of funds, the School Committee voted to omit the term in the summer of 1910, whereupon certain private individuals contributed enough to keep the school open. During the summer just passed it was kept open at the expense of the city. The demand for admission is very large and the school seems to be doing much good. A day Trade School for Boys is to be opened in the old Brimmer School building as soon as it can be made ready for occupancy.

There are three evening industrial schools, and these are practically the former evening drawing schools, which had done good work for many years but which have been somewhat changed to meet the requirements of the State Board of Education. These schools are maintained for the benefit of those over fourteen years of age who are employed during the day in some craft or trade and who are able to attend at least two evenings each week. Courses are arranged for architectural drawing, machine drawing, tool and jig making, ship draughting, freehand drawing, designing, steam engineering, sheet metal pattern draughting, building estimating, interior decorating, and preparation for the Lowell Institute School for Industrial Foremen. An evening Trade School for Girls will be opened in October of this year.

SECTION 9. CONTINUATION SCHOOLS.

These schools are established for working people who desire to add to their knowledge of business and to increase their industrial efficiency. Last year there were three courses, shoe and leather, dry goods and preparatory salesmanship. They are largely experimental in their nature, but merchants and others engaged in the

special industries believe that they may be of great value and are anxious for their continuance and enlargement. The great danger that lies before them is the failure to retain the interest of pupils; unless carefully watched and strengthened they may easily become purely perfunctory. The experiment, however, deserves a thorough trial.

SECTION 10. VOCATIONAL GUIDANCE.

The problem of a child's future as a member of the great army of employers and employees in active life is one with which the schools have heretofore only indirectly dealt. Interference in a subject which theoretically should be settled by parent and child is an extremely delicate matter, yet that there is need of help in this direction is a matter of common knowledge.

In May, 1909, the School Committee authorized the appointment by the superintendent of a Committee on Vocational Direction, composed of six members of the teaching force (consisting now of three masters and three submasters of elementary schools), and this committee has arranged for co-operation among and received assistance from various organizations interested in vocational work, furnished vocational lectures to graduating classes of certain of the elementary schools in the thickly settled portions of the city, and in some instances (although not as generally as it would like) has obtained employment for pupils, counseling and following them up after leaving school, and has tried various experiments along different vocational lines. In each high school and elementary school there have been appointed one or more vocational counselors. The counselors in the elementary schools, in case there are more applicants than can be accommodated in the special high schools, choose those for admission who, from their personal observation, they believe to be best adapted to succeed. A submaster in one of the elementary schools in December, 1910, was assigned the special duty to investigate

and report practical plans for the establishment of vocational guidance of pupils in the public schools.

In the Practical Arts High School and in the Trade School for Girls vocational assistants are appointed. These assistants study trade conditions, furnish information as to the same to parents and pupils, obtain positions for and keep watch of graduates.

All this is of course wholly experimental; it has its dangers as well as its advantages; no one can predict the outcome, but it is an honest effort to help and is worth the trial. The intention is not to take away the parental responsibility but to arouse the parents' interest, and to help wherever possible.

SECTION 11. EXTENDED USE OF SCHOOL BUILDINGS.

The assessed value last year of the Boston school buildings was \$13,997,200, and of the school land \$5,038,100, a total of \$19,035,300. For a large part of the year these buildings are unoccupied. For years the masters, teachers and janitors felt that they were the real owners of the school buildings, and any attempt to use them for anything but the narrowest interpretation of the words "school purposes" was resisted as an encroachment upon their prerogative.

Some masters were more liberal than others, and various independent experiments were tried, opening the schools in the evening for study purposes or for entertainments, the hope being to interest the neighboring community in the schools as centers of social as well as educational activity. This was the origin of the so-called "educational centers," which were established in 1902, had a vogue for a few years and were then merged in evening schools.

The appreciation both by the public and by the school authorities of the economic as well as educational value of a more extended use of the school buildings has led to their opening for a variety of purposes, such as even-

ing lectures and concerts, social, philanthropic, political and other gatherings. Alumni associations, local improvement associations, and many others have been granted authority to use them. There should be an even more extended use of the school buildings as soon as the necessary funds can be provided.

The basements have also been used quite freely as polling places at general elections, there being now eighty-four such places. Formerly this use of the school buildings was condemned as demoralizing to the children because of the scenes that sometimes occurred at elections; but the better theory has prevailed and has proved true in practice, that the presence of the children tends to prevent disorder and that, as the duty of voting is one for which the children are being prepared, they are helped by watching its practical operation.

SECTION 12. ADVISORY COMMITTEES.

The German system of advisory committees of business men in school matters was introduced in 1906 in connection with the new High School of Commerce, when the presidents of various business organizations were invited by the School Committee to formulate a plan to secure the co-operation of business men in the work of that high school. There are at present seven such advisory committees upon the following schools or subjects: High School of Commerce, Mechanic Arts High School, Trade School for Girls, school hygiene, further use of school buildings, Pre-Apprentice School of Printing and Bookbinding, and independent lighting plants in school buildings. Some of these committees have a large membership, which, while possessing certain theoretical advantages, has the practical disadvantage that very little work is done by some members and thus the control falls into the hands of a few enthusiasts. This evil has been felt and is likely to increase, but much help has been received notwithstanding this fact.

CHAPTER V. BOOKS AND SUPPLIES.

SECTION 1. BOOKS.

The law requiring the public schools to furnish free text-books and other school supplies (Acts of 1884, ch. 103) and another (Acts of 1885, ch. 161) authorizing the School Committee to procure at the city's expense such apparatus, books of reference and other means of illustration as it might deem necessary have proved of great benefit to the schools. In 1901 (Acts of 1901, ch. 472) the School Committee was authorized to allow "pupils completing two years in any public school in grades more advanced than the fourth . . . upon graduating from the grammar schools . . . to retain in permanent ownership such three text-books used during the last year of their attendance in the school as they may select," and to purchase other text-books at not more than the cost price. All text-books not thus taken are used by successive pupils until discontinued or worn out.

The purchase and distribution of books and supplies has been in very economical hands and complaint has been made frequently that the desire for economy has approached too closely to the line of parsimony. Books are rebound, sometimes more than once, and are retained in use until they are absolutely worn out.

Each year the Board of Superintendents prepares a list of authorized text, supplementary and reference books, embodying such changes in and additions to the list of the previous year as they deem necessary, and these changes and additions are then either approved or disapproved by the School Committee. During the year further changes may be made to meet the needs of the schools. The rules provide that "only such books shall be purchased for use in the schools as shall have been duly authorized by the Committee," but they are silent as to what shall be done with books already purchased which are subsequently removed from the authorized list.

The Finance Commission has had a study made of this subject and has found that at the time of its inquiry there were charged to the elementary schools more than 186,000 books which were not on the authorized list, some of them having been discontinued as far back as 1901. To the Normal, Latin and high schools over 29,600 and to the evening schools about 9,300 text-books were charged which were not on the authorized list. Of a total of about 825,000 books charged to the various schools, over 225,000, or about 27 per cent, were not on the authorized lists. Thus it appears that more than one-fourth of the books then in use in the schools had been pronounced by the Board of Superintendents and by the School Committee as unworthy a place on the authorized list, and while it is probable that many of them still had an educational value, yet it was clearly unfair to permit 27 per cent of the pupils to receive their education through inferior books while their more fortunate neighbors (73 per cent of the whole) had the benefit of more modern books. The average physical life of text-books, taken as a whole, is from seven to eight years; and many of these books had not been in use long enough to become completely worn out. But the continued use of obsolete educational tools is indefensible from any point of view except that of a false economy. This is now recognized by the school authorities, and efforts are being made to reduce the number of obsolete books and finally to do away with those now on hand.

Many books are worn out each year, others are destroyed because of danger from infection or contagion, and still others are lost. A large number of new books is required to take their place and meet new needs, and in the aggregate the changes are considerable.

The net increase in the total number of books in use in the schools and the very large increase of new books furnished during the last two years over previous years is shown from the following statements:

The net increase was as follows:

Entire period, 1898 to 1911 (annual average), 26,193 net increase.
 First subperiod, 1898 to 1905 (annual average), 26,009 net increase.
 Second subperiod, 1906 to 1911 (annual average), 26,489 net increase.
 One year, 1909-10, 48,518 net increase.
 One year, 1910-11, 42,739 net increase.

The number of new books furnished was as follows:

Entire period, 1898 to 1911 (annual average), 104,947 new books.
 First subperiod, 1898 to 1905 (annual average), 97,890 new books.
 Second subperiod, 1906 to 1911 (annual average), 116,238 new books.
 One year, 1909-10, 157,431 new books.
 One year, 1910-11, 143,318 new books.

The furnishing of more and better books was the reason for the increase in the item "cost of books" from \$42,572.85 in 1908-09 to \$71,513.18 in 1909-10 and \$65,121.14 in 1910-11. This item of expense must necessarily increase largely with the extension of this new and wise policy adopted by the School Committee.

There were charged to the various schools at the close of the last fiscal year (January, 1911) the following text-books:

Normal	4,818
Latin and high	233,998
Elementary	601,500
Evening	27,102
	<hr/>
	867,418
	<hr/>

At administration headquarters a careful inventory and account is kept of all text-books purchased, of those on hand at the supply department, those sent to the schools, those subsequently returned, those reported lost, those destroyed because of exposure to contagion or those exchanged for new books. Every text-book is accounted for from its first appearance to its final disappearance.

There is a different practice in regard to the relatively small number of books for supplementary reading, which are sent to the masters of the schools upon requisition, and, as they are regarded as in the nature

of a reference library and not to be returned, they are charged off and no further accounting at Mason street is required or kept.

SECTION 2. OTHER EDUCATIONAL SUPPLIES.

The item of "Supplies and Incidentals" in the school reports covers a great variety of miscellaneous needs and seems to be the universal pool into which all charges flow that cannot find a home elsewhere. Stationery, postage, blank paper, drawing materials, paper blocks, philosophical, scientific and other apparatus, globes, maps, charts, typewriters, pianos, manual training supplies, kindergarten supplies, physical training supplies (including military drill), playground supplies and apparatus, sewing and cooking materials and flags for schoolhouses are among the many things that must be furnished.

Complaints have been made that the interests of the various schools have not been cared for always with absolute equality and that certain schools have obtained more than their fair share of supplies. The many other demands for money led to a very close economy in supplies, particularly in the year 1908-09, when elementary school supplies were curtailed because of the demands due to the enormous growth of the high schools. In 1909-10 and 1910-11 attempts were made to remedy this situation by a substantial increase in the supplies for elementary schools, and last year the School Committee, upon recommendation of the Board of Apportionment, fixed the following per capita apportionment of supplies among the various classes of schools:

Normal School	\$6 00
Latin and high schools	4 15
Elementary schools	1 35
Kindergartens ;	55

In addition small sums were allowed certain schools and special appropriations were made for the Trade

School for Girls, the Pre-Apprentice School of Printing and Bookbinding and for evening schools, also for certain supplies enumerated as outside the apportionment.

This seeming discrimination in the schedule in favor of the secondary as against the elementary schools is due to the necessities of the situation. The more advanced education which the public demands requires more costly educational tools and if the demand is met the increased cost cannot be avoided. If experience shows that the amounts now allowed the different schools are not as fair as they should be the figures can be readjusted, but the plan of apportionment is a good one, as it tends to eliminate the basis of the charge of favoritism.

Requisitions for supplies are made in triplicate upon the auditor by the master of the school, through the business agent, and are subject to the approval of the assistant superintendent in charge of the particular school. They can be sent but once each month, on the fifteenth day thereof, and are then filed by the auditor from the supply room.

A stock book is kept in which there is an account of each article which goes into or out of the supply room. The correctness of the account is proven by the inventory which is taken in January of each year. A ledger is kept called the master's ledger in which is shown the text-books and other articles which go to the schools. It shows what each school should have on hand at the beginning of the school year in September and what is sent during the year, with credits for anything returned. These are all checked up at the end of the school year, and a new account is opened at the beginning of the new school year. No stock book or inventory, however, is required to be kept at the school, although some of the masters voluntarily keep an inventory. In its absence there is no check upon the disposition of the supplies received. This lack has been criticized, but it is probable that the clerical work involved in the

keeping at the schools of a minute account of the disposition of such articles as stationery, pencils and similar supplies would be quite as costly as any possible loss that might be incurred through the absence of an inventory and account of stock. The time of a highly paid official, such as the master or his assistant, ought not to be taken up with such details, but where clerical assistants are furnished, as has been done for high schools and is suggested for elementary schools, this, as well as keeping an account of the supplementary books, might well be made a part of their duties.

SECTION 3. COAL.

The addition of many new and costly buildings and the renovation of the old, introducing elaborate modern systems of heating, ventilation and sanitation, as well as various purely educational improvements, such as laboratories, involve a corresponding increase in the extent of the various functions connected with their maintenance. To these causes is due the large increase in the consumption of coal.

In the year ending January 31, 1898, there were 15,327 tons of coal furnished the schools, while in the year ending January 31, 1911, the amount was 28,064 tons, an increase of 12,737 tons, or about 83 per cent. The old Dorchester High School in 1897-98 required 63 tons, while the new Dorchester High School, with its annex, in 1910-11 required 497 tons. The West Roxbury High School received 72 tons in 1897-98 and 340 tons in 1910-11. The Mechanic Arts High School received 305 tons in 1897-98 and 828 tons in 1910-11.

There were similar large increases in the elementary schools. The new Mather School received last year 375 tons, as against 98 tons in the old building in 1897-98; the new Bigelow School 250 tons, as against 100 tons in the old building in 1897-98; the new Chapman School 215 tons, as against 99 tons in the old building in 1897-98. Of the elementary schools not in existence in 1898, the Washington School received last year 370 tons; the William E. Russell School 315 tons; the Oliver

Wendell Holmes School 270 tons; the Jefferson School 248 tons; the Roger Wolcott School 228 tons; and other schools in proportion. In 1897-98 many of the elementary buildings received 100 tons or less and a large proportion of them less than 150 tons. One only was charged with more than 200 tons, the Bowdoin School receiving in that year 264 tons. It is interesting to note that this school last year received only 180 tons, the reduction being due to a change in the character of the heating apparatus and also to the change from the use of anthracite to that of bituminous coal.

The substitution of bituminous for anthracite coal has been made wherever practicable and has resulted in a great saving in the amount of coal consumed. The schoolhouse custodian estimates that the annual saving in money value amounts to about \$30,000, and in this he is confirmed by an expert on coal employed by the Finance Commission.

Bituminous coal is not used throughout the department because all the plants are not equipped for it. Last year there were 9,516 tons of anthracite and 18,548 tons of bituminous coal supplied to the various school buildings.

SECTION 4. WATER.

In the early part of the "period" (1898-1911) the Water Department charged and collected from other departments, including the School Committee, the usual rates charged private parties for water. This system was discontinued in 1901 and no charge has since been made, thus relieving the schools of a substantial charge, estimated now at about \$20,000 annually. The tendency of such a charge is to prevent waste of water and there is no reason why a proper charge should not be made on a meter basis, even though such a charge should make it necessary to procure legislative authority for the larger school appropriation required.

SECTION 5. LIGHT AND POWER.

In the report of the Committee on Supplies for 1898 appears this significant statement: "Electric lighting in

the schools is only in its infancy, and when, as is probable, it is more generally introduced a large increase in the cost for this item may be expected." This prophecy has been fulfilled. The cost last year for electric lighting was \$22,314.35; for electric power, \$3,632.53, and for gas, \$5,463.83, a total of \$31,410.71; whereas in 1897-98 the total cost for gas and electricity was only \$8,694.51. The rate charged for electricity is beyond the control of the School Committee. Efforts to secure better rates have been made, but the decision of the electric light company in refusing a reduction has been sustained by the Gas and Electric Light Commissioners and there seems to be no remedy. Various suggestions for relief have been made, including the establishment by the city of its own electric plant. With the greater use of the school buildings in the late winter afternoons and at night, which is inevitable, and the consequent increase in the consumption of electricity, the cost must increase. The problem of providing cheaper light is a complicated and pressing one which is receiving the careful consideration of the School Committee.

CHAPTER VI. THE TEACHING FORCE.

SECTION 1. NEED OF GOOD TEACHERS.

That the municipal problem is largely a human one appears nowhere more plainly than in the point of view taken by a certain portion of the public as to the choice of teachers in the public schools. No one will deny as an abstract proposition that each child who attends the public schools is entitled to instruction from a competent teacher, and that a denial of this right works great harm not only to the child but to the community of which he is to form a part. To secure this right, however, a continuous struggle for many years has been necessary, and the period under consideration has been particularly distinguished for the advances that have been made towards securing better teachers.

SECTION 2. PRESENCE OF INFERIOR TEACHERS.

This subject is one of vital interest and there should be no hesitation in making clear the exact truth. Sympathy for a needy but incompetent teacher has too often worked immense harm to a great number of innocent and helpless children. The community does not realize how many inferior teachers have been in the service, nor the unfortunate consequences of their work. If it did, there would be less sympathy for the teacher and more for the child.

In 1897 the Superintendent of Schools made a careful examination of the then teaching force, and in his annual report (School Document No. 5 of 1897, page 53) gave a tabulated statement of the standing of the teachers based upon marks made at his request by the principals and supervisors. Out of 1,414 teachers marked, only 266 reached a standard of "excellent," 46 "not quite excellent," 335 were "better than good," 406 were "good," and more than one-fourth of the total were not even "good."

With about 350 teachers rated as not even "good," and with an average quota of about forty-four pupils to a teacher, it is evident that in each year about 15,000 pupils received an education inferior to that received by pupils whose teachers were more competent. In a period of ten years, which is the average term of service of a teacher, these inferior teachers were injuring the chances of success in life of about 150,000 pupils, thereby also throwing discredit upon the schools to which they belonged, and upon the "good" and "excellent" teachers who formed the balance of the teaching force.

In his annual report for 1898 (School Document No. 3 of 1898, page 12) the superintendent said:

"The examination of the facts which I am making this year leads me to the same conclusion. Justice to the superior teachers, justice indeed to the teaching profession generally, requires that the inferior teachers

be improved or removed; but there is a far stronger consideration to be urged in favor of the same conclusion, and that is justice to the children."

A strong effort to eliminate inferior teachers has since been made.

SECTION 3. NEW METHOD OF APPOINTMENT.

It was in this spirit, and with this aim, that a majority of the School Committee in 1898 changed the rules, and gave to the superintendent a large influence in the selection, appointment and promotion of teachers; and this at the time was noted as a remarkable instance of self-reform by a school committee.

There were two main reasons for the poor quality of so many teachers: (1) the ease with which young women could pass through the Normal School in its then weak condition, and the consequent large number of inexperienced graduates who claimed a right to a position solely on the ground of their need; (2) political and personal influence in securing appointments. Political "pull," a pretty face, or a sad story of want, had often as much to do with an appointment as ability to teach.

To overcome these influences there was at once established a partial civil service system based upon a merit list of that year's (1898) graduates of the Normal School, and the Normal School itself has since been materially strengthened. Thus, for the first time, the civil service idea was introduced in relation to the appointment of teachers in the Boston schools. Permanent appointments were made from this list and from similar lists prepared thereafter in each year, in accordance with civil service rules, the three candidates standing highest on the list at the time being the only ones considered. There were other candidates, however, who were not included in the new civil service system; they were subject to examination, but once on the list they were eligible for appointment, whether their

names were at the top or bottom of the list, and those at the bottom were frequently appointed in preference to those higher on the list. Temporary appointments were also excepted, and by a succession of these "temporary" appointments, shrewd candidates with influential friends received employment practically throughout the year, while those equally or more deserving remained idle. The reform was a feeble effort in the light of subsequent achievements, but it was a remarkable advance for those days.

SECTION 4. REACTIONS.

The new rules were good as far as they went, and in most instances were observed, to the marked advantage of the service; yet there was still opportunity for favoritism which was availed of by certain members of the Board; and the secret influence and often ruthlessly exercised power of the small subcommittees in charge of individual schools did much to destroy the value of the reform. The superintendent was sometimes coerced and his appointments rejected; and finally, in 1904, in a wave of reaction, he was defeated for re-election after a service of twenty-four years.

This reaction, however, was followed by a counter-wave of reform in 1906, under the influence of which the constitution of the School Committee was changed and five members were elected who believed that the schools were primarily for the children and that the best teachers to be had anywhere were none too good for Boston, and also believed that promotion and increase of salaries should not come automatically by mere lapse of time, but should depend upon efficiency and mental growth.

In this year (1906) the rules were revised and the appointment and promotion of teachers were placed upon a very much higher basis than ever before. Further changes have since been made from time to time for the purpose of improving the teaching force.

SECTION 5. EXAMINATION AND RATING OF CANDIDATES.

Except graduates of the Boston Normal School (who are separately provided for) all candidates, after passing a competitive examination, receive from the Board of Superintendents a rating based upon scholarship, as ascertained by the examination, and upon the amount, quality and character of previous teaching experience. Their names are then arranged in accordance with their marks in graded eligible lists, and appointments to permanent positions in the day school service, except those of principals and directors, are made in regular sequence from the highest three names on these lists. The requirements for high school teachers' certificates have been modified so as to secure teachers skilled in departmental work, and generally the requirements for all certificates have been strengthened.

The graduates of the Boston Normal School are arranged in similar lists from which appointments are similarly made, but, as on graduation the amount of their teaching experience is very limited and their original standing must necessarily be based almost solely on scholarship, they are regraded each year from reports made by the principals, directors and supervisor of substitutes, increased weight being given to success in teaching.

SECTION 6. BOSTON NORMAL SCHOOL PUPILS.

Practically two-thirds to four-fifths of the teachers appointed to positions in the elementary schools are graduates of the Boston Normal School. Particular attention has therefore been given to improving the product of that school, which with its splendid equipment has absolutely no excuse for any further failure in this respect. Great care is taken in admitting pupils, a combined plan of certification and examination having been established, the intention being to admit only pupils of a high grade of ability.

Better opportunities for observation work and practice teaching have been provided through the organization of the Martin School as a model school. This school is on Huntington avenue, very near the Normal Group, and a master in the Normal School was made at the same time principal of the Martin District, thus securing close co-ordination of the work in the two schools.*

In 1904 (Acts of 1904, ch. 212) the Legislature authorized the admission of men to the Normal School, thus giving an opportunity, hitherto closed to males, for an education as a teacher at the city's expense.

SECTION 7. PROMOTIONAL EXAMINATIONS.

Promotional examinations in May and December of each year have been established as a test of efficiency for teachers already in the service. Before being placed upon the third-year salary each teacher is required to pass a promotional examination, two opportunities being given, and if failure results in both instances the employment ceases at the beginning of the next school year. Another promotional examination is optional with the teacher in the sixth year, but if it is not taken the schedule increase of salary is withheld. Upon the recommendation of the principal and assistant superintendent, or of the assistant superintendent in charge of a school, the superintendent may before October 1 in any year require any teacher to take the promotional examination in May of the following year, and if this results in failure a second examination in the May following, and if this too results in failure the employment ceases.

The examination consists of three parts: (1) success in school during the preceding year; (2) professional study; and (3) academic study in some one line. Satisfactory completion of a course or courses of study authorized by and conducted under the direction of the

* The master in the Normal School has been relieved of his duties as principal of the Martin District, but he still has direction of the work of the Model School. (School Committee Minutes, April 3, 1911.)

Board of Superintendents may be accepted as a part of the examination relating to professional study. For the academic study there may be substituted such course or courses counting for a college degree as the Board of Superintendents may approve, or the satisfactory completion of a course or courses authorized by and conducted under the direction of the Board.

SECTION 8. OPPORTUNITIES FOR PROMOTION.

Not only is it desirable to secure good teachers, and require them to pass examinations from time to time for promotion, but opportunities for advancement must be held out to them. This is a difficult problem. There are comparatively few positions at the head of schools or districts, and as the tenure is for life there are few vacancies. Formerly when such vacancies occurred they were uniformly filled by men. The large corps of women teachers in the elementary schools saw that they had no hope for advancement beyond the position of master's assistant, with a maximum salary of \$1,308. In 1902 the School Committee adopted this resolution: "That in the opinion of this Board sex ought not to be a bar to promotion in the teaching force, and that in any appointment to a position as principal of a girls' school a woman, other things being equal, should be preferred."

There are now nine women at the head of schools or districts.

SECTION 9. SUPERVISION OF NEW TEACHERS.

One of the most important advances towards efficient teaching was made through the establishment in 1906 of the position of supervisor of substitutes. It is the duty of the supervisor to assign substitutes to vacancies both for long terms when teachers are out on sick or other leave, and for emergencies caused by temporary absences. For this latter purpose the supervisor attends at the central administration building on Mason street each morning, and assigns the substitutes who are present to the various schools where temporary vacancies

have occurred. The assignments are made from a special substitutes' list prepared by the superintendent. After the assignments have been finished for the day the supervisor and her assistant pay visits to the substitutes at their work in the schools, advising with and helping them to use better methods of teaching and discipline. Visits of inspection are first made to see the kind of work done, and to note the special needs of the young teachers; other visits are made later to see what improvement, if any, has been made under instruction, and what further help can be given. Actual school difficulties are considered as they arise and the teacher is assisted in solving them. Conferences are also had at the Mason street office.

In addition, the supervisor meets the seniors in the Normal School each week during the year before graduation, and discusses with them the practical difficulties of teaching, the subjects of discipline, program making, class records, class spirit, special types of children, including those of foreign birth, and the best way of working with them. Thus, each graduate is personally acquainted with the supervisor, and a friendly relation is established from the start. An enlargement of this department may prove to be the true solution of the problem of visitation. Similar visitation of the kindergarten teachers is made by the director of kindergartens, and the visitation of special teachers is made by the heads of the special departments.

SECTION 10. LEAVE OF ABSENCE ON HALF PAY.

To increase the opportunity for personal and professional improvement among teachers, a system of leave of absence on half pay for study and travel, or for rest, was established in 1906. A member of the supervising staff, or teacher, who has completed seven years of service in the Boston public schools (part of which may be in the Parental School) may be granted leave of absence for study and travel for a period not exceeding one year in any eight consecutive years, or if he has

completed twenty years of such service, a leave of absence for rest [i. e., as distinguished from "study and travel"] of not exceeding one year in any twenty-one consecutive years. The teacher must file with the secretary of the School Committee an agreement in writing, binding the teacher to remain in the service of the School Committee for three years after the expiration of such leave of absence, or in case of resignation within said three years to refund to the School Committee such proportion of the amount paid him for the time included in the leave of absence as the unexpired portion of said three years may bear to the entire three years; but this provision does not apply to resignations at the request of the School Committee, nor if made on account of ill health with the consent of the School Committee.

SECTION 11. AGE LIMITS.

One of the changes in the rules which has excited the greatest discussion, and which at first met with the most adverse criticism, but the wisdom of which is being slowly acknowledged, was that made in 1908, providing that the employment of members of the supervising staff, or teachers, shall terminate on the thirty-first day of August next following their seventieth birthday. There were many popular teachers affected by this rule, and their friends resented the seeming reflection upon their capacity, charging the School Committee with cruelty in suddenly throwing such faithful public servants out of employment, particularly in the absence of a proper pension system. But this legislation was based upon excellent reasons, which are tersely set forth in the Annual School Report for 1908, page 37:

"It is not easy to say at what time an individual teacher becomes ineffective and a detriment to the school in which he or she is employed. In many cases the limitations caused by age and infirmity come on so gradually that the decrease in vigor and enthusiasm, in the grasp of details and in teaching power is realized only by comparison of periods considerably separated

from each other. If it were possible to deal with a large system employing nearly three thousand individuals in the same way as with a small group, it would perhaps be practicable to determine the point at which the superannuation of the individual takes place; but if this method be attempted in dealing with large numbers of persons, all or nearly all of whom would not unreasonably seek to establish their continued fitness for service, it would be impossible to avoid suspicion of favoritism, and endless difficulties would arise in deciding upon the merits of individual claims for special consideration because of valuable services rendered in the past. That the children in the public schools should be taught by vigorous and efficient teachers admits of no question."

The maximum age limit at which new teachers may enter the service was at the same time fixed at forty years, but this does not apply to those holding teachers' certificates issued prior to January 1, 1909, nor to the positions of principal of a school or district, director or supervisor of a special subject or department, instructor of military drill, medical inspector of special classes or supervising nurse.

SECTION 12. PENSIONS.

The subject of providing pensions for teachers as a means of strengthening the teaching force by the retirement of the superannuated, as well as an act of justice to faithful teachers, has long been under discussion. Its desirability was suggested in the annual school reports as far back as 1879, but nothing came of it. Certain teachers in 1889 organized the Boston Teachers' Mutual Benefit Association; and in 1900 an act was passed (Acts of 1900, ch. 237) providing for a Teachers' Retirement Fund. Neither of these had any resemblance to a pension system, and neither made adequate provision for retired teachers.

In 1906 a study of the question was made by the School Committee, and in 1908 (Acts of 1908, ch. 589) the Legislature authorized the committee to appropriate annually from the tax levy 5 cents upon each \$1,000

of taxable value to provide for the payment of a pension of "not exceeding \$180 a year" to members of the teaching or supervising staff who might be retired under the provisions of the act. The amount was so small, in comparison with pensions paid, for example, to policemen and firemen, that in 1910 a new act (Acts of 1910, ch. 617) was passed authorizing the payment of a minimum pension of \$312, and a maximum of \$600, to members of the teaching and supervising staff retired under the provisions thereof. The act also made provision for payment of \$180 a year to not less than 60 annuitants of the Boston Teachers' Retirement Fund, described in the act.

Under the foregoing provisions the School Committee has since paid to retired teachers, or into the permanent pension fund, the total amount of \$195,129.35.

CHAPTER VII. QUOTA OF PUPILS TO TEACHERS.

In the beginning of the period under consideration (1898-1911) there was allowed in the elementary schools (grammar and primary) one instructor for every 56 pupils registered; and authority was given to add a teacher where there was an excess, or remove one where there was a deficiency of 30 pupils. The practical working of this provision is shown by the following table which was published with the rules:

Scholars.	Teachers.	Scholars.	Teachers.
From 30 to 85	1	From 590 to 645	11
From 86 to 141	2	From 646 to 701	12
From 142 to 197	3	From 702 to 757	13
From 198 to 253	4	From 758 to 813	14
From 254 to 309	5	From 814 to 869	15
From 310 to 365	6	From 870 to 925	16
From 366 to 421	7	From 926 to 981	17
From 422 to 477	8	From 982 to 1,037	18
From 478 to 533	9	From 1,038 to 1,093	19
From 534 to 589	10	From 1,094 to 1,149	20

Thus, while the nominal size of a class was 56, some teachers might have in their charge as many as 85 children. Some relief was obtained in the upper grades through the presence of special teachers in sewing, manual training, etc., and in the lowest grade it was provided that in classes exceeding 56, but less than 86 pupils a special assistant teacher might be appointed at a small per diem compensation.

It is difficult to understand how good results could have been expected from even the best teachers, and still less from teachers who were not even "good," with classes of such huge proportions. Millions of dollars were being paid for magnificent new buildings and their maintenance while a "penny wise, pound foolish," policy of economy permitted this defect in a vital part of the educational system.

The impossibility of securing proper attention to individual pupils in such large classes was recognized in other branches of school work. Thus, in the Normal School the quota of teachers was one for every 25 pupils, a teacher to be added for an excess or removed for a deficiency of 20 pupils. In the high schools and the Boys' Latin the quota was 1 for 35*; in the Girls' Latin 1 for 30; and a teacher might be added for an excess or removed for a deficiency of 20 pupils. In the Mechanic Arts High School the quota was 1 for 24, with an addition for an excess or removal for a deficiency of 16. These quotas were independent of special teachers, of which there were many. In the kindergartens the quota was 1 for 25 with an instructor added for an excess or removed for a deficiency of 15. In the Horace Mann School for the Deaf a teacher was allowed for every ten pupils, with an addition for an excess of 5. In the evening high schools the quota was 1 for 25, with one additional for an excess of 20; and in the evening elementary schools 1 for 15, with one additional for an excess of 10; teachers being dismissed in case of a falling off in attendance. In the evening drawing schools the quota was 1 for 30, with an additional teacher for an excess of 16.

* Boys' Latin, first three years, 1 in 35; next three years, 1 in 30.

The lack of adequate appropriations by the City Council had been an absolute bar to reform in this injustice to the children; but shortly after the School Board obtained the authority to make its own appropriations it gave serious attention to the matter. A very small and insufficient reduction in the size of classes, however, was all that anyone dared even to consider. In his annual report for 1899 the superintendent said:

"The reduction of the quota from 56 to 50 pupils to a teacher in the primary schools was recommended by me some years ago, and I am ready to renew this recommendation as soon as the financial situation may warrant."

In 1900 the Board of Superintendents made a special report (Document No. 3 of 1900, page 7) in response to an order of inquiry from the School Committee, discussing at length the size of classes and the evil arising therefrom, saying: "The only reason ever alleged for making the regulation number of pupils so high is the saving of money, but there is a limit beyond which to increase the size of classes is waste and not economy." In accordance with the Board's recommendation the rules were amended, making 50 pupils the standard number to a teacher in elementary schools, except in the first or lowest grade, where the standard was placed at 42. A teacher might be added for an excess or removed for a deficiency of 30 pupils.

In 1902 the provision authorizing the appointment of a special assistant teacher in classes exceeding 56 and less than 86, which before applied only to the lowest grade, was extended to all grades. In 1906 by a further change in the regulations provision was made for the appointment of special assistants in the first grade when the number of pupils exceeded 50 and in grades above the first when the number exceeded 60.

In 1907 the Board of Superintendents again made an elaborate and convincing report upon the size of classes, saying:

"Were the work of the schools to be confined to the

acquisition of a prescribed number of facts to be learned by rote by all the children, without regard to individual ability or aptitude, there need be no limit to the size of classes. But the time when such work was called education has passed. It is now thought to be the business of the schools to fit its instruction and training to the individual capacity and individual needs of children. It must find the child and learn to look at the work from his standpoint, that it may secure his interested and willing co-operation in his own education, so that his education shall be self-education through self-activity. It must try to do this for the mentally sluggish and the morally wayward, even for the defective and the vicious, as the aim of all teaching must be character. Such work can only be done by superior teachers, but even by superior teachers it cannot be done with children in masses. The Board of Superintendents recommends the gradual reduction on a sliding scale of the maximum number of pupils to a teacher in all elementary grades above the first, as follows:

"(1.) For the school year 1907, the quota of pupils to a teacher shall be 48.

"(2.) For the school year 1908, the quota of pupils to a teacher shall be 46.

"(3.) For the school year 1909, the quota of pupils to a teacher shall be 44.

"The Board of Superintendents welcomes this opportunity to again put itself on record in favor of removing conditions by which the best efforts of the most skillful and self-denying teachers are continually thwarted."

This recommendation was adopted by the School Committee, and the introduction of smaller classes in the elementary schools is being gradually brought about, although there are still very many classes much larger than the quota, which is now 44 for grades above the first, 42 for the first grade, 35 for ungraded classes, 25 for kindergartens and 10 for the Horace Mann School for the Deaf.

In the Normal School there is no limit, the number

of teachers being such "as may be necessary to carry on the assigned work of the school in an efficient manner, as determined by the superintendent." In the Latin and high schools the quota is 35, with certain additional teachers specified in the rules as to each school.

In the evening schools the quota is 25 in high schools, 35 for each two teachers in elementary schools, and 20 in industrial schools, with certain additional teachers, interpreters and curators specified in the rules as to each school.

These changes have required a large increase in the number of teachers and a corresponding increase in the salary list, but the expense has more than paid for itself in its effect upon the schools. There would be a still further reduction of the size of classes if due regard were had to the interest of the children; and the necessary money ought to be provided.

CHAPTER VIII. THE CHILDREN.

SECTION 1. INDIVIDUALITY OF THE CHILD.

That the schools are established for the children and not the children for the schools is a trite saying, but it is often overlooked or forgotten in the discussions which constantly arise over the rights or claims of contractors, tradesmen, teachers, janitors, the clerical force and other necessary adjuncts to the school system.

Even when the children are considered, they are liable to be regarded as a group, continuously present in the schools, rather than as constantly changing individuals, each with his individual peculiarities and his individual right to an education. The loss caused to the schools by a poor teacher, a poor book or a poor system may be remedied by the later substitution of a better, but the wrong to the individual child who is thereby sent into the world with a defective education can never be righted.

The importance of recognizing and caring for the individuality of the child is by no means a modern idea; it has long been urged by the few, but only in comparatively

recent years has it been accepted by the many as a living issue. It has had great consideration by the school authorities during the "period" (1898-1911) and especially during the "second subperiod" (1906-11).

SECTION 2. THE SCHOOL POPULATION.

To ascertain the facts as to school attendance, the Finance Commission has prepared a table, hereto annexed as Table I., showing the fluctuations of the school population during the period under consideration. From this table is taken the following statement, showing the average annual number of pupils belonging to the schools in the three representative years:

School.	1897-98.	1905-06.	1910-11.
Normal.....	279	321	224
Latin and High.....	4,812	7,209	12,121
Elementary.....	65,020	80,123	81,366
Kindergarten.....	3,926	5,536	5,138
Special schools (Horace Mann, etc.).....	133	163	426
Totals.....	75,070	93,442	99,269
Evening schools.....	5,955	10,950	10,335
Totals.....	81,025	104,392	109,604

From this it appears that during the "period" (1898-1911) the total increase of pupils belonging to day schools was 24,199, an annual average of 1,861; and to evening schools, 4,380, an annual average of 337; or to both day and evening schools, 28,579, an annual average of 2,198. In the "first subperiod" (1898-1905) the total increase in the day schools was 18,372, an annual average of 2,296; and in the evening schools, 4,995, an annual average of 624; or in both day and evening schools, 23,367, an annual average of 2,921. In the "second subperiod" (1906-11) the total increase in the day schools was 5,827, an annual average of 1,165; while in the evening schools there was a decrease of 615, an annual average of 123,

making the total increase of both day and evening schools only 5,212, an annual average of only 1,042.

In the last year there has been a decrease in the total school population, as shown below:

SCHOOL.	1909-10.	1910-11.	
Normal.....	219	224	5 Increase.
Latin and High.....	11,050	12,121	1,071 Increase.
Elementary.....	82,739	81,366	1,373 Decrease.
Kindergarten.....	5,694	5,133	561 Decrease.
Special schools.....	357	425	68 Increase.
Totals.....	100,059	99,269	790 Decrease.
Evening schools.....	10,126	10,335	209 Increase.
Totals.....	110,185	109,604	581 Decrease.

Conclusions must be drawn cautiously as to evening schools, as it is believed that the earlier figures are not absolutely reliable. One cause given for the apparent cessation in growth of these schools is the greater accuracy required to-day in reporting actual attendance and the stricter discipline maintained. A genuine desire to learn and a fairly regular attendance are now required for continuance of membership.

The decrease of membership in the elementary schools may be attributed in part at least to the change in the number of elementary grades from nine to eight, which first went into effect in 1907, and the force of which has not absolutely spent itself. Some of the pupils who would have been in the ninth elementary grade have dropped out; some have gone voluntarily, and some have been forced by the legal requirement as to school age into the high schools. Another cause may be the change in the rules by which children under the age of seven years may be refused admission to the first grade after October 31 in each year, the result being to raise the average minimum age of admission and thereby decrease the number of pupils. The decrease in the kindergarten schools was due to a change from three and one-half to four years in the minimum age at which children are admitted and to the stricter requirement of proof of age before admission. Other causes

for the decrease may be at work, and it would be a difficult and perhaps impossible task to determine just what they are. At all events the decrease of about $1\frac{1}{2}$ per cent in the number of elementary school pupils and of about $\frac{1}{2}$ of 1 per cent in the number of pupils in all schools furnishes no occasion for alarm; the falling off in all probability is only a temporary one, and in future years the normal increase of previous years may be expected.

One important fact stands out clearly, namely, that the Latin and high school population shows a steady and in recent years an almost phenomenal growth. In the entire period under consideration (1898-1911) the increase of pupils was 7,309, the annual average increase being 562. In the "first subperiod" of eight years (1898-1905) the increase was 2,487, the annual average increase being 311. In the "second subperiod" of five years (1906-11) the increase was 4,822, the annual average increase being 964. The increase of 4,822 in this "second subperiod" is slightly greater than the entire Latin and high school population in 1897-98, which was 4,812. The increase last year was 1,071; the year before, 1,325, and the year before, 1,704, a total in three years of 4,100.

The facts appear more clearly from the following statement showing the average number belonging for the years named in the several Latin and high schools:

SCHOOL.	1897-98.	1905-06.	1910-11.
Latin (boys).....	609	593	756
Girls' Latin.....	336	388	656
Brighton High (mixed).....	246	289	344
Charlestown High (mixed).....	283	257	478
Dorchester High (mixed).....	291	1,115	1,408
East Boston High (mixed).....	211	411	545
English High (boys).....	841	922	1,480
Girls' High.....	884	1,088	1,739
High School of Commerce (boys).....	—	—	785
Mechanic Arts High (boys).....	313	710	1,301
Practical Arts High (girls).....	—	—	400
Roxbury High (mixed)*.....	555	610	856
South Boston High (mixed).....	—	531	678
West Roxbury High (mixed).....	243	385	625
	4,812	7,299	12,121

* This is to become exclusively a school for girls, no more boys to be admitted.

Prolonged attendance of children in the secondary schools means self-sacrifice on the part of many parents, and this would not long continue if such schools were not doing fairly good work, and meeting what self-denying parents regard as of real value for their children. This, in the opinion of the Finance Commission, is most convincing evidence that the high school "boom," so called, is not merely a manufactured sentiment.

That many children have attended and probably will attend the high schools as mere idlers, for the sake of the social pleasures, such as school societies, dancing, athletic games, etc., there can be little doubt; and the School Committee, recognizing these facts, has attempted to meet such conditions. In 1906 the rules were amended, providing that high school pupils who fail in a certain number of subjects and show a culpable want of effort to reach a satisfactory standard of work, shall be placed upon probation, and if they do not improve, shall be required to withdraw from the school.

In 1906 (Acts of 1906, ch. 251) school athletics were placed by the Legislature in charge of the School Committee, and in 1909 (Acts of 1909, ch. 120) the School Committee was given authority over secret organizations of pupils.

SECTION 3. HEALTH OF THE CHILDREN.

Most important of all the essentials for educational success is that each individual child should have sufficient health to enable it to receive the education offered. In Boston there is, under the Board of Health, a corps of school physicians, which, though containing many good men who have done and are doing efficient service, has been too largely dominated by political influence to accomplish the best work. In 1906 (Acts of 1906, ch. 502) the Legislature passed an act requiring the appointment of school physicians by school committees, but only where the Board of Health had not done so; consequently the Boston School Committee has not been able to take the matter of appointments

into its own hands, but has had to do the best it could with the appointees of the Boston Board of Health. It has had studies made of different phases of the health problem; various commissions of physicians and others have been appointed from time to time, and have made valuable reports upon the subject of health of the school children, and upon these it has acted so far as it could.

A special day is observed in the schools as Health Day, for the purpose of presenting in a special manner the value and importance of conserving health.

(a.) *Physical Education.*

In 1850 (Acts of 1850, ch. 229) the Legislature first authorized the teaching of physiology and hygiene, and required that all teachers should be examined on such subjects. In 1907 (Acts of 1907, ch. 295) the powers of the School Committee were greatly enlarged in respect to physical education; authority being given to organize and conduct physical training and exercises, athletics, sports, games and play, and to provide proper apparatus, equipment and facilities for the same; and a special part of the tax levy was set aside for the purpose. There had been a department of physical training, but now, for the purpose of emphasizing the health side of the work, it was reorganized as the department of school hygiene under the director of school hygiene. In 1909 and 1910 school documents were issued containing outlines of elaborately prepared courses of study in physiology and hygiene for elementary schools and physical education for high schools. From the first grade in the elementary schools through the fourth year in the high schools a most minute course of instruction is laid out.

In the first of these documents appears this preliminary statement: "The children in the first three grades are too young to enter upon the study of hygiene, but they are not too young to be encouraged in habits of cleanliness, modesty and neatness."

In the foreword to the second document it is said: "The instructors in physical training and the instruct-

ors in athletics have exceptional opportunities for instilling into the minds and habits of the pupils who come to them for physical exercises lessons of personal hygiene, self-restraint and moral righteousness. The instruction given upon these subjects to pupils is necessarily individual in most instances; nevertheless, it is just that personal factor which makes the lessons taught effective and brings to each pupil a realization of the force of the truths of physical, mental and sex hygiene underlying health and happiness."

These two statements are the keynotes of the courses.

(b.) *Cleanliness.*

The children are taught the necessity of personal, including dental, cleanliness. The rules provide that every child must come to school clean in his person and dress, and with his clothes in proper repair. In some of the schools baths have been provided. These changes have had a wholesome effect.

(c.) *Nurses.*

In 1907 (Acts of 1907, ch. 357) the Legislature provided that the School Committee should appoint a force of female nurses to perform such duties as the committee might designate, but more particularly to assist the medical inspectors, appointed by the Board of Health, in their work in the public schools, and to give such instruction to the pupils as might promote their physical welfare. The force at present consists of a supervising nurse, and thirty-four district nurses who are attached to the Department of School Hygiene. Each nurse is assigned to a territory in which the school attendance is approximately 2,700 children. Her time is divided between work at the schools, escorting pupils to hospitals, and visits to the homes. The testimony of the masters of the schools and a careful study made by a representative of the Finance Commission leads to the belief that the nurses on the whole are faithful and efficient, and that their work is of distinct help to the schools. Certain

masters, who stated that originally they were opposed to the system, declared themselves as fully converted. That it has not reached its highest efficiency, and that there are opportunities for improvement is true of this, as of any new system; and the Director of Hygiene appreciates the fact. It is impossible to determine with exactness the amount or true value of the work done or the efficiency of supervision because of the lack of a satisfactory reporting system. The total figures for 1910-11 were not available up to the time of the writing of this report which is of itself a serious reflection upon the manner in which the records are kept. The Director of Hygiene has prepared a new system of reporting for the ensuing year which he expects will meet some of the criticisms made. There should be no delay in this matter.

On May 1 of this year a new system of medical inspection was introduced by the Board of Health and it is to be hoped that hereafter there will be no reason for the complaint which has sometimes been made of lack of co-operation on either side. The interests of the children require a real co-operation in practice as well as in theory.

(d.) Tests of Sight and Hearing.

Many an innocent child has been severely punished for inattention or supposed impudence who simply could not see or hear what was going on. To put in the back row a child whose eyesight and hearing is defective is merely to invite trouble; and yet for a long time the front seats were reserved as a reward for the bright, clear-eyed, quickly responsive scholars, and the supposed dullard was relegated to a place where his attention could by no means be attracted and his only resource was so-called mischief.

Under the provisions of the Acts of 1906 (ch. 502) the School Committee is required to cause each child in the public schools to be tested and examined separately and carefully, at least once each year, to ascer-

tain whether he is suffering from defective sight or hearing, or from any other disability or defect tending to prevent his receiving the full benefit of his school work, or requiring a modification of the school work in order to prevent injury to the child, or to secure the best educational results. The tests of sight and hearing are made by the teachers, and notice of any defect or disability requiring treatment is sent to the child's parent or guardian.

(e.) *Measuring and Weighing.*

At the suggestion of the Advisory Committee on School Hygiene, the School Committee in January, 1909, authorized the measuring and weighing of pupils from time to time in order to secure statistics relating to their growth and development, and appointed a professor of the Harvard Medical School as consulting physiologist. He withdrew later, however, and the work is now attempted by the school nurses. It is believed that one of the signs of disease is the failure of a child to grow in height and weight in a certain ratio, and this is one method of detecting and guarding against disease.

(f.) *Tuberculosis.*

In 1908 (Acts of 1908, ch. 181) the Legislature required that special instruction as to tuberculosis and its prevention should be given in the public schools, and the State Board of Education prepared a pamphlet entitled: "Tuberculosis and Its Prevention, Suggestions to Teachers," and this was distributed among the teachers for their guidance.

In the same year a private philanthropic organization had established an out-door camp for tuberculous children in the Jefferson School District, and at its request the School Committee furnished a special teacher to give instruction at the city's expense to the children in the camp. Later this camp was taken into the joint charge of the School Committee and the trustees of the Consumptives' Hospital, and was

transferred to a large building, known as the "refectory" in Franklin Park, which was fitted up for the purpose, the instruction being furnished by the School Committee.

A commission of five physicians was invited by the School Committee to investigate the problem of tuberculosis as affecting school children and later made a report accompanied by sundry recommendations. They reported particularly their observations as to the open-air school at Franklin Park, stating that "the commission regards the results obtained as most encouraging" and "strongly recommends that a further experiment with an out-door school on a larger scale be tried."

Notwithstanding this recommendation, and the apparent success of the school during the ensuing year, it has been discontinued by a majority vote (against the protest of a strong minority) of the trustees of the Consumptives' Hospital. A heated controversy followed the closing of the school, which demonstrated that there is much to be said on both sides, but, in the opinion of the Finance Commission, left it clear that it was unwise to end so hopeful an experiment.

(g.) *Physically Debilitated Children.*

There are many children, who, while not suffering from tuberculosis, or other contagious disease, are so physically debilitated that they cannot get the full benefit of their educational opportunities. These are the anæmic children; those who are undersized and below the normal weight; those showing evidence of glandular enlargement; the "sickly" or "scrofulous" children; and those who return to school after a long convalescence from illness.

In November, 1909, the Advisory Committee on School Hygiene, at the request of the School Committee, made an investigation and report as to the best means of helping these physically debilitated children. Their report, like that of the Committee on Tuberculous Children, laid special emphasis upon the necessity of

fresh air and sunshine. Open-air rooms with an abundance of direct sunshine were recommended, and it was suggested that these rooms, especially in the overcrowded districts, should be in the upper stories with a southern exposure; that arrangements should be made for the widest use of open windows; and that in all cases of out-door or open-air accommodations there should be protection for the feet and legs, a sleeping-bag, so called, being recommended as the most practical suggestion.

These suggestions have been followed to a large extent. In fact some of them were anticipated. Thus, the School Committee had already, in March, 1909, passed a vote asking the Schoolhouse Commissioners "to consider the question of establishing health rooms in new school buildings," to which the commissioners replied that plans had already been arranged for supplying experimentally what would practically be out-of-door rooms in the new Abraham Lincoln School, then under construction. The School Committee, upon receiving the report of the Advisory Committee, sent it to the Board of Schoolhouse Commissioners with the request that "said Board provide an open-air room or rooms in every new permanent school building."

The experiment was tried in 1909 and 1910, by a master of one of the elementary schools, of establishing a class of physically debilitated children in the open air in a corner of one of the school yards. The children gained in weight, and were reported as showing a marked physical and mental improvement; but the class has since been discontinued. Experiments of this sort are not expensive and do no harm; this seems to have done good. The wisdom of its discontinuance was doubtful to say the least.

To secure an ample supply of fresh air the rules were last year amended to provide that windows should be opened top and bottom for a sufficient portion of each period allotted to the setting-up drill, to insure the thorough ventilation of each room with outside air.

(h.) The Food Problem.

One of the most perplexing problems in dealing with the health of school children is that of their proper nourishment. The truth undoubtedly is that a large number are not properly cared for, either through lack of sufficient food or, if the quantity is sufficient, because of its poor quality or improper preparation. The latter fact was recognized by the School Committee last year in authorizing a series of lessons in cookery in certain schools for the purpose of instructing mothers in regard to the preparation of foods especially suited to anæmic children.

A system of school lunches in the high schools has been introduced, under an arrangement with a private association, through which wholesome food is furnished at low prices. This arrangement has been attacked as savoring of favoritism toward the association which furnishes the lunches, but the Finance Commission has not been able to discover any just foundation for the charge. The commission has suggested to the School Committee that an opportunity should be given all responsible bidders to be heard on the question of whether they could and would furnish equally good food at lower prices, but it has no hesitation in indorsing the attitude of the School Committee that the quality of the food is of prime importance and should be the controlling factor in making any arrangement of this kind. In a number of the schools a mid-morning lunch at a nominal sum is provided for the benefit of anæmic children.

SECTION 4. MENTALLY DEFICIENT CHILDREN.

In 1898 a movement to set apart and educate the mentally deficient children of the public schools was begun. A teacher who was especially interested and qualified was assigned the duty of investigating the number and character of the cases reported by the masters of the schools. As a result of her study a single

class was established experimentally in January, 1899, and this was so successful that in December of the same year a second class was established, and there are now nine such classes. It is too much to expect a regular teacher with a large class to give special care and attention to one or more feeble-minded children. Although parents dislike to have their children thus segregated, it is essential for good administration, and generally it can be made plain to them that it is also beneficial to the child. A special medical inspector for these classes has been appointed.

SECTION 5. RETARDATION.

The promotion of pupils according to their respective qualifications, and not by fixed rules at fixed dates, is a serious and difficult problem which has long disturbed educators. Bright, capable children have been held back by their less fortunate or less interested classmates. To meet this difficulty the regulations provide that promotions of individual pupils from grade to grade may be made at any time by the principal, with the approval of the assistant superintendent in charge of a district; and whenever the work of one grade is finished by a class, the work of the next grade is to be taken up at once. But the difficulty does not stop here; the problem of the backward child is still to be solved. The backward child is not only a burden upon the teacher and the class, but he is a heavy charge financially to the schools, as he must be taught the same thing twice, thus doubling the expense. Last year a study of this subject was made in the elementary schools, and it was found that about 8,500 pupils, or 10 per cent of the registration, were "retarded," that is, unable to make the advance to the next grade. Reports on each case were received from the principals, and the causes were tabulated, resulting in the following summary:

Illness (diphtheria, scarlet fever, measles, surgery, etc.)	.	.	1,252
Absence caused by truancy, neglect, home work	.	.	468
Entered late in the school year	.	.	650

Came from other schools	405
Repeated change of schools	181
Came recently from foreign countries	331
Promoted on trial at beginning of year	239
Defective hearing	83
Defective vision	241
Defective speech	53
Deformities	31
Lazy	538
Inattentive	495
Mentally deficient	369
Mentally immature (slow mental development)	2,803
Causes unknown	196
Adenoids	13
Nervous	7
Cigarette smokers	14
Miscellaneous	127
	<hr/>
	8,496

The chief value of this report lies in the accompanying announcement by the school authorities of their intention to follow up these cases in the home through the district nurses in order that, as far as possible, any defect or impediment may be remedied, and that each child may be helped to help himself to an education.

It will undoubtedly be found that some of the 538 cases described as "lazy," or of the 495 as "inattentive" have undiscovered physical defects which may be remedied.

SECTION 6. ATHLETICS.

One great danger in competition in athletic games between schools and classes is the physical injury that may come from overdoing and another is the spirit of ungenerous rivalry that sometimes develops. The whole subject of athletics has been placed in the hands of the director of school hygiene, under the superintendent, and great care is taken in securing a proper supervision over the players and the games.

SECTION 7. PLAYGROUNDS.

The first appropriation for playgrounds in connection with the Boston schools was made in 1899. Prior to

that time some of the school yards had been opened in summer as playgrounds for children under private auspices. In 1900 what were known as vacation schools were first opened and they continued to grow in number and popularity. They were never true schools, in the academic sense, their real purpose being to keep children who had no other place to play during vacation occupied healthfully, pleasantly, and away from the streets and under mild supervision. In 1908 they were partly, and in 1909 wholly, given up as a separate organization and were merged into summer playgrounds, under the provisions of the legislative Act of 1907 (ch. 295), already referred to. A manual for public school playgrounds has been issued, and this branch of the school activities, now thoroughly recognized both by the law and by public opinion, has developed to large proportions.

TABLE I.

Table 1.

Average Whole Number of Pupils Belonging for Year Ending June 30.

SCHOOL.	1896.	1899.	1900.	1901.	1902.
Latin.....	609	622	610	564	557
Girls' Latin.....	336	344	360	347	359
Brighton High.....	246	225	210	243	273
Charlestown High.....	283	352	340	317	280
Dorchester High.....	251	351	410	521	745
East Boston High.....	211	242	263	296	316
English High.....	341	349	363	306	693
Girls' High.....	884	926	934	1,018	781
High School of Commerce.....	—	—	—	—	—
Practical Arts High.....	—	—	—	—	—
Mechanic Arts High.....	313	375	431	451	526
Roxbury High.....	555	597	656	704	644
South Boston High.....	—	—	—	—	469
West Roxbury High.....	243	274	245	292	293
Total Latin and High.....	4,812	5,157	5,372	5,417	5,936
Normal.....	279	285	244	196	195
Elementary.....	65,920	67,529	69,879	71,346	73,056
Horace Mann.....	111	118	118	100	125
Spectacle Island.....	22	16	18	11	18
Kindergarten.....	3,926	3,904	4,004	4,415	4,565
Pre-Apprentice School.....	—	—	—	—	—
Trade School for Girls.....	—	—	—	—	—
Total day schools.....	75,070	77,009	79,833	81,537	83,895
Evening high.....	2,326	2,000	2,053	2,067	2,242
Evening elementary.....	3,148	3,170	3,145	3,403	3,553
Evening drawing-industrial.....	481	534	594	582	599
Total all schools.....	81,025	82,212	85,647	87,589	90,289
Increase.....	—	1,187	3,435	2,042	2,600

Table I.

Average Whole Number of Pupils Belonging for Year Ending June 30.

1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.
553	556	545	593	591	606	687	761	756
342	363	337	388	407	483	583	620	654
256	268	319	289	278	311	352	325	344
218	197	224	257	265	317	301	422	378
854	1,000	1,085	1,115	1,166	1,123	1,189	1,300	1,406
246	306	371	411	369	311	457	400	545
738	776	800	923	942	955	1,009	1,000	1,480
842	916	1,049	1,088	1,100	1,104	1,358	1,531	1,730
—	—	—	—	100	110	509	666	785
—	—	—	—	—	94	234	346	460
604	658	679	710	696	745	1,000	1,000	1,801
684	639	660	610	610	624	706	707	856
508	485	495	531	496	519	590	662	678
334	340	355	385	397	432	517	500	635
6,274	6,611	6,907	7,299	7,444	8,021	8,700	11,050	12,121
225	235	286	321	238	211	311	219	224
74,776	76,575	78,681	80,100	81,467	81,934	82,300	82,739†	81,366
125	131	136	152	142	144	168	155	144
10	8	7	11	8	10	12	11	7
4,855	4,975	5,301	5,300	5,604	5,600	5,571	5,694	5,123
—	—	—	—	—	—	—	—	37
—	—	—	—	—	—	—	196	100
86,265	87,510	91,000	93,442	94,903	95,926	98,068	100,050	100,000
2,584	4,424	4,810	4,764	3,517	3,378*	4,100	3,849	3,800
3,665	4,117	4,000	5,523	5,761	3,264*	7,309	5,740	5,700
691	703	647	663	670	647*	702	607	526
93,205	97,782	101,226	104,000	105,854	106,716	110,148	110,185	100,000
2,916	4,577	3,444	3,000	1,000	1,000	1,433	37	661‡

* January 31, 1908, figures only; June 30 not available.

† Including 92, total registration at Pre-Apprentice School.

‡ Decrease.

PART III. FINANCIAL REVIEW.

CHAPTER I. PRELIMINARY STATEMENT.

SECTION 1. THE STATUTES AUTHORIZING APPROPRIATIONS.

The right given in 1898 to the School Committee to make its own appropriations was subject to certain limitations in amount, which have from time to time been changed by the Legislature.

In 1898 (Acts of 1898, ch. 400) the amount authorized was \$2.80 upon each \$1,000 of taxable valuation for the year ending January 31, 1899; \$2.85 for the year ending January 31, 1900; and for future years \$2.90. Of these amounts, not less than 25 cents upon each \$1,000 of taxable valuation was required to be expended solely for repairs and alterations upon school buildings.

In 1901 (Acts of 1901, ch. 448) the amount authorized was raised to \$3.40 upon each \$1,000 of taxable valuation, and from this sum of \$3.40 there was required to be appropriated not less than 40 cents solely for new school buildings, lands, yards and furnishings, and not less than 25 cents solely for repairs and alterations of school buildings. These are popularly known as the "40 cents" and "25 cents" funds, and will be so referred to hereafter.

In 1909 (Acts of 1909, ch. 388) the amount authorized was raised for the year ending January 31, 1910, to \$3.50; for the following year to \$3.60; and for each year thereafter to \$3.70 on each \$1,000 of taxable valuation; these amounts including the "40 cents" and "25 cents" funds previously referred to.

In the present year the Legislature has authorized a further increase to \$3.80 for the year ending January

31, 1913, to \$3.90 for the following year and to \$3.95 for each year thereafter, on each \$1,000 of taxable valuation, these increases to be applied wholly to the increase of the salaries of teachers. (Acts of 1911, ch. 708.)

Several other acts were passed during this period providing relatively small amounts for various objects. Thus, in 1903 (Acts of 1903, ch. 170) the School Committee was authorized to divert from the "40 cents" fund, to the general support of the public schools, a sum not exceeding \$60,000, as the usual appropriation was insufficient to meet the abnormally high cost of coal caused by the coal strike.

In 1906 (Acts of 1906, ch. 205) authority was given to the new School Committee of five to divert from the "25 cents" fund the sum of \$60,000 to enable them to pay overdue salaries to teachers, which the former School Committee of twenty-four had left unpaid.*

In 1907 (Acts of 1907, ch. 295) the powers of the School Committee in respect to physical education were enlarged, and authority was given to appropriate for this purpose, in addition to its other appropriations, 2 cents that year, and annually thereafter 4 cents, upon each \$1,000 of taxable valuation.

In the same year, 1907 (Acts of 1907, ch. 357), the duty of appointing supervising and district nurses for the schools was placed upon the School Committee, and for this purpose authority was given to appropriate, in addition to its other appropriations, a sum not exceeding \$10,000 for that year, and annually thereafter 2 cents upon each \$1,000 of taxable valuation.

In 1908 (Acts of 1908, ch. 589) a pension system was established, and for this purpose the School Committee was required to appropriate, in addition to its other appropriations, 5 cents on each \$1,000 of taxable valuation.

The increases over appropriations authorized for the years 1911 and 1912, which will result from the opera-

* Subsequently by vote of the School Committee, January 7, 1907, \$15,000 of the \$60,000 was transferred back to the fund for repairs and alterations.

tion of chapter 708 of the Acts of 1911, and which will become effective in 1913, are shown by the following table:

	AMOUNTS AUTHORIZED FOR YEAR ENDING				
	Jan. 31, 1911.	Jan. 31, 1912.	Jan. 31, 1913.	Jan. 31, 1914.	Jan. 31, 1915, and thereafter.
General school purposes.....	\$3 95	\$3 05	\$3 05	\$3 05	\$3 05
Land and buildings.....	40	40	40	40	40
Repairs and alterations.....	25	25	25	25	25
Increase, salaries of teachers.....	—	—	10	20	25
	\$3 60	\$3 70	\$3 80	\$3 90	\$3 95
Physical education.....	04	04	04	04	04
Nurses.....	02	02	02	02	02
Pensions.....	05	05	05	05	05
Totals.....	\$3 71	\$3 81	\$3 91	\$4 01	\$4 05

SECTION 2. DIFFICULTIES OF COMPARATIVE STUDY.

In making a study of school finances, as applied to actual school work, a serious difficulty is encountered in the fact that the financial year closes on January 31, whereas the educational year closes on June 30, and statistics as to the two are made up by the respective authorities on these different bases.

Until recently educational statistics were published semi-annually, January 31 and June 30; and the averages for the half-year ending January 31 were too large while those of the second half-year, ending June 30, were too small, because the attendance in the first half was usually larger than in the second half of the year. Yet these statements for half-year periods are frequently used in the reports in comparison with other statements for the full year. In the superintendent's reports for the years 1909-10 and 1910-11 the January statement has been discontinued and statistics for the

entire year only have been given as of June 30. While there was danger of false conclusions from the use of the old method, it had a certain value which has been lost in the new method. There would seem to be no reason why the value of semi-annual statistics might not have been preserved, and the value of annual statistics obtained by continuing the January statement and enlarging the scope of the June statement.

Another difficulty lies in the fact that items of expense have not always been properly classified, and that the same item has not been classified always in the same way. Thus, until the fiscal year 1906-07, services of maids in kindergartens were charged to "Supplies and Incidentals," where they clearly did not belong. In that year the charge was properly transferred to "Salaries," but improperly to the subdivision "Salaries of Instructors." These maids do no teaching; their duty is to care for the small children and they are neither "Supplies and Incidentals" nor "Instructors." In 1897-98 their salaries amounted to \$1,897.95, which in 1905-06 had increased to \$8,993; and during these years "Supplies and Incidentals" were thus overcharged, while "Salaries" were undercharged by the respective amounts paid; and after 1905-06 "Salaries of Instructors" were similarly overcharged. In 1899-1900 vacation schools, then newly introduced, cost \$3,000, and in 1900-01, \$3,083.21, and these amounts were classified as "Supplies and Incidentals," although a part was paid for salaries. In 1901-02 this error in classification was recognized, and of the total expenditures for vacation schools of that year, \$3,482.50 was charged to "Salaries of Instructors," while the balance of \$509.69 was properly charged to "Supplies and Incidentals." Record books used by the masters of the schools for keeping the school records were classified as "Books" until last year, when they were transferred to "Stationery." Other examples might be given.

CHAPTER II. SCHOOL EXPENDITURES.

SECTION 1. TABLE OF EXPENDITURES.

In Table II., annexed to Part III. of this report, there appears a complete statement of expenditures on account of the Boston public schools for the fourteen years from January 31, 1897, to January 31, 1911, the first year being given for purposes of comparison with the thirteen-year "period" (1898-1911) and its "subperiods" (1898-1905 and 1906-11).

The detailed figures in this table do not correspond in all respects with the figures given either in the school reports or the city auditor's reports, although the totals are substantially the same. The Finance Commission has had some of the items re-classified; thus, for example, under the heading "Salaries" the true situation is given as to kindergarten maids in each year. No attempt, however, has been made to recast all doubtful classification, as this would have involved an amount of labor and expense entirely disproportionate to any advantage gained. It is to be regretted that the school reports and those of the city auditor, although generally agreeing in totals, do not always correspond in details or in classification. This makes an inquiry more difficult, and demonstrates the necessity of a closer co-operation between departments and a more careful study of a uniform system of accounts. The school auditor, the business agent, and the city auditor should consult together and agree upon a standard of classification and itemization to be used in all reports.

SECTION 2. COST OF BUILDINGS.

At the end of Table II. is given the annual expenditure for land and new buildings, as follows:

"Period"	1898-99 . . .	\$626,515 93	"First subperiod."
	1899-1900 . . .	822,107 37	
	1900-01 . . .	737,183 81	
	1901-02 . . .	838,074 64	
	1902-03 . . .	945,089 34	
	1903-04 . . .	1,440,655 31	
	1904-05 . . .	2,114,851 23	"Second subperiod."
	1905-06 . . .	1,033,829 17	
	1906-07 . . .	716,482 77	
	1907-08 . . .	841,905 04	
	1908-09 . . .	771,019 50	
	1909-10 . . .	795,402 00	
	1910-11 . . .	1,034,933 29	
Total in thirteen years . . .		<u>\$12,718,049 40</u>	

The greatest expenditure for new buildings was during, and near the close of, the "first subperiod." Thus, in the "first subperiod" the total cost of new buildings was \$8,558,306.80. In the last three years of the "first subperiod," 1903-04, 1904-05 and 1905-06, the cost was \$4,589,335.71. This, as shown by the list of new buildings given in Part II., represents a large increase in the school plant and there would consequently be expected in the "second subperiod" a large corresponding increase in maintenance cost; yet, as a matter of fact, it will be found that the figures in some instances show an actual decrease, which indicates economy.

By far the larger part of the great outlay for new buildings has been raised by loans. The attempt by the School Committee to exercise the authority granted in 1901 to appropriate out of the annual tax levy the "40 cents" fund for new school buildings has met with opposition from successive mayors. An appropriation of \$446,000 made in 1902 was vetoed by the Mayor, but he assented to an appropriation of \$90,000. In 1903 a further appropriation from the tax levy was attempted by certain members of the School Committee, but the necessary two-thirds vote was not obtained; and until 1910 there was no further attempt to carry out the provisions of this law. In that year an appropriation for this purpose of \$529,557 from the

tax levy was passed over the Mayor's veto; and in 1911, with the Mayor's approval, an appropriation of \$405,000 from the tax levy was made. The sound policy of paying for what is truly a current expense from the annual tax levy instead of from borrowed money now seems likely to become firmly established.

SECTION 3. COST OF THE SCHOOL SYSTEM.

The changes during the "subperiods" in the various classes of expenditure are shown by the following statement condensed from Table II. Figures are given for the three typical years:

	1897-98.	1905-06.	1910-11.
A. SALARIES:			
1. Instructors	\$1,817,218 00	\$2,677,000 58	\$3,166,799 10
2. Physical education instructors	—	—	51,593 78
3. Officers	69,385 00	83,572 07	106,730 54
4. Janitors, engineers, matrons, etc.	139,220 29	222,733 62	255,196 92
5. Nurses	—	—	26,476 55
6. Kindergarten maids	1,897 95	8,993 00	6,800 65
Total salaries	\$2,027,721 24	\$2,992,299 25	\$3,613,097 54
B. TEACHERS' PENSIONS	—	—	\$66,194 65
C. FUEL, LIGHT AND POWER:			
1. Coal	\$74,306 75	\$130,126 12	\$123,235 23
2. Wood	2,739 45	4,480 52	2,800 83
3. Gas	8,694 51	8,642 74	5,463 83
4. Electricity (light)	—	16,655 58	22,314 35
5. Electricity (power)	—	3,398 57	3,632 53
Total, fuel, light and power	\$85,740 71	\$163,303 53	\$157,446 77
D. WATER	\$10,275 58	—	—
E. SUPPLIES AND INCIDENTALS:			
1. Books	\$50,509 73	\$53,113 73	\$65,121 14
2. Printing	7,350 37	12,558 52	13,281 41
3. Miscellaneous items	71,003 57	115,653 35	146,290 80
Total, supplies and incidentals	\$128,863 67	\$181,325 60	\$224,693 35
F. REPAIRS, RENTS, ETC.	\$229,941 27	\$336,700 00	\$358,500 00
G. TRUST FUNDS	\$1,904 80	\$4,157 79	\$7,523 10
Total cost	\$2,484,446 77	\$3,677,816 17	\$4,427,454 41
Income from nonresidents, trust funds, etc.	42,287 16	57,246 54	78,237 23
Net cost	\$2,442,159 61	\$3,620,569 63	\$4,349,217 18

From this statement it appears that the total increases in net expenditures were as follows:

	Total Expenses.	Increase.
1897-98.....	\$2,442,159 61	—
1905-06.....	2,620,569 63	\$1,178,410 02
1910-11.....	4,349,217 18	728,647 55
Total increase, thirteen years.....	—	\$1,907,057 57

The average annual increase during the entire "period" was \$146,696.74; during the "first subperiod," \$147,301.25; and during the "second subperiod," \$145,729.51, showing a slight difference in favor of the "second subperiod." If the item of \$66,194.65 paid under the law in 1910-11 for teachers' pensions were eliminated, as it should be in order to make fair comparisons, the annual average increases would be as follows: "Period," \$141,604.84; "first subperiod," \$147,301.25; and "second subperiod," \$132,490.58; which makes a substantial difference in favor of the "second subperiod."

Although the annual average increase in cost is thus favorable during the first five years of the small School Committee, yet the last two years seem to show an unusually large increase, which requires special examination and explanation. This increase appears from the following statement:

	1908-09.	1909-10.	1910-11.
Salaries.....	\$3,318,577 77	\$3,469,806 68	\$3,613,097 54
Teachers' pensions.....	1,678 50	127,256 20	66,194 65
Fuel, light and power.....	134,020 94	149,987 67	167,446 77
Books.....	42,572 85	71,513 18	65,121 14
Other supplies and incidentals.....	128,354 42	154,961 70	159,572 21
Repairs, rents, etc.....	333,500 00	342,975 30	358,500 00
Trust funds.....	2,887 24	2,955 47	7,522 10
Total cost.....	\$3,961,591 72	\$4,319,549 13	\$4,427,454 41
Income.....	66,746 83	71,319 47	78,237 23
Net cost.....	\$3,894,844 89	\$4,248,136 73	\$4,349,217 18
Increase over previous year.....	\$101,696 87	\$353,291 84	\$101,080 45

SECTION 4. LARGE INCREASE IN THE LAST TWO YEARS.

Thus, the increase in 1909-10 over the year 1908-09 was more than three times the increase of the previous year and was immediately followed in 1910-11 by a further increase of \$101,080.45.

This statement unexplained might seem to imply extravagance in these two years, but the Finance Commission is convinced that the increases were inevitable. The items which make up the total increase are shown in the following table:

	1909-10.	1910-11.
Increase in salaries.. .. .	\$151,228 91	\$148,290 86
Increase in pensions.....	125,577 70	* 61,061 55
Increase in fuel, etc.....	15,906 73	7,459 10
Increase in books.....	28,940 33	* 6,392 04
Increase in other supplies.....	26,607 28	4,610 51
Increase in repairs.....	9,475 30	15,524 70
Increase in trust funds.. ..	68 23	4,566 63
	\$357,864 48	\$107,908 21
Increase income.....	4,572 64	6,917 76
Net increase.....	\$353,291 84	\$101,080 45

* Decrease.

It will be seen that more than one-third of the total increase in 1909-10 over 1908-09 was due to the payment of teachers' pensions in accordance with the provisions of law. The increases in salaries in both years were mainly due to the operation of the teachers' salary schedules, which provide automatically for increases from year to year; and to the increased cost of janitors' service, which is also regulated by schedule and paid for according to the amount of work actually accomplished. The increase in the amount paid for books and other supplies was due to the necessity of meeting the normal demands and supplying the deficiencies of former years. The increase in the cost of fuel, light and power is clearly attributable to improved service in existing

buildings and the increased work required by the addition of new buildings. No opportunity for retrenchment in any of these items has been neglected by the School Committee, so far as the Finance Commission has been able to discover. The increase in the item of repairs is not abnormal; and the payments out of trust funds are regulated by the terms of the trusts.

SECTION 5. ANALYSIS AND APPORTIONMENT OF COSTS DURING THE LAST THREE YEARS.

The present business agent has issued three annual reports and in each has made a careful analysis of the actual cost of the schools, apportioning to each department and school its share of each class of expenses. From these the following comparative statement has been prepared, with some rearrangement, the purpose being to show just where the increases in cost during these years have occurred. The figures are based on the schedule rates of salaries, both for officers and subordinates, and on the cost of supplies, and expenses properly chargeable to each office or school. As in some instances these differ from the actual expenditures, the totals vary slightly from those of Table II., but not enough to affect the comparison.

	1908-09.	1909-10.	1910-11.
1. Administration Expenses:			
(a) Business:			
(1) Secretary.....	\$8,124 73	\$8,911 33	\$10,054 48
(2) Business Agent.....	8,186 07	9,221 59	9,724 49
(3) Auditor (including Supply Department).	15,928 85	15,977 02	17,399 12
(4) Schoolhouse Custodian...	3,011 74	3,037 33	3,044 45
(5) Maintenance of Mason street building and sundry incidentals.	4,966 41	5,279 61	3,937 96
(b) Educational:			
(1) Superintendent.....	13,240 53	12,891 03	13,881 49
(2) Board of Superintendents..	28,812 84	29,160 51	28,754 50
(3) Department of Drawing and Manual Training.	13,510 37	13,820 75	14,228 77
<i>Carried forward</i>	\$95,799 54	\$96,299 17	\$101,023 26

	1908-09.	1909-10.	1910-11.
<i>Brought forward</i>	\$95,799 54	\$96,299 17	\$101,023 26
1. Administration Expenses.—Con.			
(4) Department of Music.....	19,231 20	19,607 56	19,679 27
(5) Department of School Hygiene.	16,878 34	18,884 49	19,903 79
(6) Department of Substitutes.	3,192 79	4,416 20	5,559 78
(7) Department of Kindergartens.	1,807 81	1,803 48	1,949 50
(8) Department of Household Science and Arts.	1,486 51	1,409 15	1,700 23
(9) Department of Evening Schools.	3,050 46	2,847 26	3,238 31
(10) Truant Officers.....	31,999 58	31,613 82	32,004 53
(11) Committee on Vocational Guidance.	—	—	144 15
(12) Proportion of printing and binding.	8,468 13	8,303 08	12,311 84
2. Direct School Charges (including salaries of teachers and janitors, fuel, light, books, etc.):			
(1) Normal.....	37,773 97	39,815 59	38,848 23
(2) Latin and High.....	696,521 84	798,455 33	857,241 95
(3) Elementary (including kindergarten).	2,521,380 92	2,603,210 61	2,679,912 29
(4) Horace Mann School.....	28,942 27	29,332 26	29,216 50
(5) Summer High School.....	—	1,934 32	1,742 96
(6) Continuation School.	—	—	1,788 09
(7) Trade School for Girls.....	—	8,056 62	24,611 58
(8) Pre-Apprentice School of Printing (equipment).	—	149 00	1,000 00
(9) Evening High.....	37,542 20	42,741 09	38,800 79
(10) Evening Elementary.....	70,984 43	74,308 73	61,763 44
(11) Evening School Extension.	—	669 04	1,280 86
(12) Evening Industrial (drawing).	15,201 75	13,439 30	10,712 03
(13) Park playgrounds.....	3,876 09	11,372 06	14,600 30
(14) School yard playgrounds..	10,332 33	15,198 28	9,990 00
(15) Franklin Park School.....	—	—	4,267 20
3. Miscellaneous School Expenses. Not chargeable to specific schools.	18,723 16	17,807 56	20,522 27
	\$3,623,292 22	\$3,843,674 00	\$3,995,757 14
4. Pensions	1,678 50	127,256 30	66,194 65
5. Repairs	333,500 00	342,975 30	358,500 00
6. Trust Funds	2,887 24	2,955 47	7,522 10
	\$3,961,358 06	\$4,316,860 97	\$4,427,973 89
Less income	66,746 83	71,319 47	78,237 23
	\$3,894,611 23	\$4,245,541 50	\$4,349,736 66
Variation from Table II	233 66	2,595 22	519 48
	\$3,894,844 89	\$4,248,136 72	\$4,349,217 18

In the administrative departments, both on the business and educational sides, the changes have been comparatively slight. The first five items represent the cost of the business administration, including the secretary, business agent, auditor (and supply department), schoolhouse custodian, and general maintenance charges at Mason street. These amounted altogether to \$40,235.80 in 1908-09; \$42,426.88 in 1909-10, and \$44,150.50 in 1910-11, or about 1 per cent of the total school expenditures. This cannot be called large in view of the character and extent of the work done.

On the educational side the total administration cost (excluding that of truant officers, which remained practically stationary, and also the arbitrary apportionment for printing and binding) was \$101,310.85 in 1908-09, \$104,840.43 in 1909-10, and \$109,047.79 in 1910-11, a total increase of \$7,736.94, of which \$3,025.45 was in the department of school hygiene, \$2,366.99 in the department of substitutes and the remainder divided in small amounts among the other departments. The increase in the superintendent's office and the Board of Superintendents was trifling.

The substantial increases were in the schools, the most notable being in the high schools, viz., \$101,933.49 in 1909-10, and a further increase of \$58,786.62 in 1910-11, a total of \$160,720.11 in two years. In the elementary schools the increase was \$81,829.69 in 1909-10 and \$76,701.68 in 1910-11, a total of \$158,531.37 in two years. The increase last year in the cost of elementary schools exceeded that of high schools by \$17,915.06; but the total increase for the two years of the high schools exceeded that of the elementary schools by \$2,188.74. The proportional increase in high schools was much greater than that in the elementary schools. The Trade School for Girls appeared for the first time in 1909-10, with a cost of \$8,056.62, which in 1910-11 became \$24,611.58. So with the Pre-Apprentice School of Printing and Bookbinding, which first appeared in 1909-10, with an equipment cost of \$149, followed by an

increase to \$3,038.08 in 1910-11. The Summer High School and the Continuation School, both new experiments, added slightly to the cost in these two years. The Franklin Park School for tuberculous children cost \$4,267.20 in the single year (1910-11) of its existence.

The evening schools, in the last year, show a substantial falling off in cost, for the reasons given in the earlier part of this report. Playgrounds in the parks and school yards show an increase of \$12,361.92 the first year and a net increase for the two years of \$10,287.16. These are paid from the special tax levy authorized for physical education.

SECTION 6. SALARIES.

Of the total school expenditures for all purposes in 1897-98, 83 per cent was for salaries; in 1905-06 it was also 83 per cent; in 1909-10 it was 81 per cent; and last year it was again 83 per cent, leaving only 17 per cent for all other school needs. Deducting the total amount paid last year for salaries, \$3,613,097.54, from the total school expenditures, \$4,349,217.18, there was left for all other expenses only \$736,119.64.

1. *Salaries of Instructors.*

This item includes salaries of masters of schools, but not salaries of the supervising force, or directors of departments, as they are included under the heading of officers. It does not at present include instructors of physical education. Of the total amount paid for all salaries, approximately 89 per cent is paid each year to the teaching force.

The total expenditure for salaries of instructors in the three representative years was as follows:

1897-98	.	.	.	\$1,817,218	00				
1905-06	.	.	.	2,677,000	56	Increase	.	.	\$859,782 56
1910-11	.	.	.	3,166,799	10	Increase	.	.	489,798 54
Total increase									<u>\$1,349,581 10</u>

The average annual increase for the "period" was \$103,813.93; for the "first subperiod" \$107,472.82; and

for the "second subperiod" \$97,959.71. In the year 1909-10 the increase over the previous year was \$131,804.62, and last year there was a further increase of \$136,397.09.

There has been no substantial change in the salary schedule since 1898, except that of July, 1911; and the causes of these later large increases must therefore be sought elsewhere. They are:

(a) The increase in the number of elementary teachers, due to the gradual reduction of the quota of pupils to teachers.

(b) The increase in the number of more expensive Latin and high school teachers, due to the increase in attendance and the establishment of new high schools.

(c) The operation of the sliding scale in the salary schedule, whereby each teacher beginning on the minimum salary receives an annual increase until the maximum salary is reached.

The following table shows the number of teachers, as of June 30, in each of the following years:

	1907.	1908.	1909.	1910.
Latin and High schools.....	276	297	339	406
Elementary schools.....	2,004	2,040	2,126	2,211

The increase of Latin and high school teachers from 1907 to 1908 was 21; from 1908 to 1909, 42; from 1909 to 1910, 67; a total of 130. The increase of elementary teachers from 1907 to 1908 was 36; from 1908 to 1909, 86; from 1909 to 1910, 85, a total of 207. In the year of appointment the increase is only felt in the amount of salary paid that year, but each year thereafter, by the operation of the sliding scale, each teacher receives automatically a salary increase, and this in the aggregate amounts to a very large sum. The annual increase varies according to the position; in the Latin and high

schools, \$60, \$72, \$120 or \$144; and in the elementary schools, \$24, \$48 or \$120. If a teacher on the maximum salary is retired and a new teacher appointed in his place starting at the minimum salary, the schedule works financially in favor of the school; but if new positions are created, it works the other way. Where, as has recently been the case, the number of new positions is unusually large, the annual increase thus becomes a serious burden. The 130 new Latin and high school teachers and the 207 new elementary teachers, aggregating 337 teachers, are all on the sliding scale, and, if their average annual increase was only \$72 (and it was probably more), there was last year and will be hereafter for several years an increase in the salary list on that account alone of about \$25,000.

On June 30, 1911, the number of teachers had still further increased by 29 in the Latin and high schools; but, owing to the decrease of pupils in the elementary schools, the number of elementary teachers had decreased 28. The increase in salaries for the next year will nevertheless continue, because of the sliding scale.

The highest salary which any male teacher in the Boston schools may receive under existing schedules is the maximum salary of a master of the Normal School, a Latin school or high school, namely, \$3,780. The highest salary which any woman teacher may receive under existing schedules is the maximum salary of a master of an elementary school, namely, \$3,180. These salaries, considering the importance of the positions, do not seem to the Finance Commission to be excessive; nor do the salaries of the teachers of lower rank in the secondary or the elementary schools seem too high.

The Finance Commission has already reported upon the salaries of teachers in the elementary schools, recommending an increase, a copy of the report being hereto annexed as an appendix. Under the provisions of the Acts of 1911, ch. 708, a new schedule of salaries was made in July of this year, increasing the salaries of

certain of the elementary school teachers, as well as of some others in the service.

2. *Salaries of Officers.*

This item includes salaries of both principals and subordinates in all administrative departments. There has hardly been one of these salaries which has not been the subject of adverse criticism, but, so far as the Finance Commission has been able to ascertain, this criticism has had little, if any, just ground.

The superintendent is at the head of one of the great educational institutions of the country, a position of vast responsibility. He receives \$6,000 a year; much less than is paid in some of the other large cities; and no more than is paid in some cities inferior in rank to Boston. The superintendent of schools in New York receives \$10,000; in Chicago, \$10,000; in Philadelphia, \$7,500; in St. Louis, \$7,000; in Seattle, \$6,500; and in Detroit, Jersey City, Newark, Cincinnati, Cleveland, Pittsburgh, Milwaukee and Denver, \$6,000.

The assistant superintendents receive \$4,500 each. The members of the former board of supervisors received \$3,780; and the increase in salary granted in 1906 represented the difference in the character and responsibility of the new position.

The heads of departments receive the following salaries:

	Minimum.	Maximum.
Supervisor of Substitutes.....	\$2,580 00	\$3,420 00
Director of Music.....	3,000 00	3,000 00
Director of Drawing and Manual Training.....	3,000 00	3,420 00
Director of Evening and Continuation Schools.....	3,000 00	3,000 00
Director of Kindergartens.....	1,800 00	1,800 00
Director of Household Science and Arts.....	1,800 00	1,800 00

In the opinion of the Finance Commission, the salaries of the superintendent, assistant superintendents and heads of departments are not excessive.

Prior to 1908, truant officers were paid a fixed sum, the chief \$1,900 and others \$1,400 annually, without regard to their length of service. In that year a sliding scale was established for appointments made thereafter of \$1,080 for the first year, with an annual increase of \$80 until the maximum of \$1,400 should be reached.

In December last the position of secretary to the superintendent was established in place of that of chief clerk, and the salary of the incumbent was raised to \$3,180, over the Mayor's veto. Considering the importance and responsibility of the office, the salary does not seem to the Finance Commission to be too large.

In 1897-98 the salary of the secretary of the School Committee was \$3,000, which amount was raised in 1898 to \$3,300; and the salary of the auditor in 1897-98 was the same amount, \$3,300. The salaries of both were raised to \$3,780 in 1906 at the beginning of the "second subperiod," to meet the increased duties and responsibilities caused by the change in the constitution of the School Committee, and at about the same time the salary of the business agent was fixed at the same figure. The amounts are in no sense overpayments; each fully earns every dollar he receives.

The salary of the schoolhouse custodian is \$2,004, which seems entirely reasonable.

3. *Salaries of the Clerical Force.*

The compensation of subordinate employees is nominally based upon the following order adopted in June, 1907, by the School Committee (Minutes, page 105):

Ordered, That the compensation of clerks and stenographers hereafter employed in the offices of the School Committee shall be established at the following rate:

First year, \$600; annual increase, \$60; maximum, \$840; and that such clerks and stenographers who are now in the service and who receive less than \$840 per annum shall continue on their present salaries until March 1, 1908, when they shall be severally advanced at the rate of \$60 per annum; and shall thereafter be advanced at the same rate on March 1 of each succeeding year until the maximum of \$840 shall be attained; *provided* that such increases shall not be allowed unless the heads of the

offices in which such stenographers and clerks are employed shall certify that the services of such employees during the preceding year have been satisfactory.

This order has been honored quite as much in the breach as in the observance, the School Committee having repeatedly authorized exceptions thereto, especially during the last year. This seems to the Finance Commission improper, as it is likely to give rise to dissatisfaction and charges of favoritism, besides being unfair to others on the civil service list who might have taken the office had they known that the schedule was not to be observed. It is much better, as in the case of the teaching force, to adhere to the schedule, even at the risk of losing valuable employees. If the schedule is not sufficient to attract and hold the right persons, it should be changed, but while it stands it should be observed.

4. *Salaries of Janitors, Engineers and Matrons.*

The increase in the cost of schoolhouse service is shown by the following statements for the three representative years:

1897-98	.	.	.	\$139,220 29					
1905-06	.	.	.	222,733 62	Increase	.	.	\$83,513 33	
1910-11	.	.	.	255,196 92	Increase	.	.	32,463 30	
Total increase				.	.	.	.	<u>\$115,976 63</u>	

The average annual increase for the "period" (1898-1911) was \$8,921.28; for the "first subperiod" (1898-1905) \$10,439.17; and for the "second subperiod" (1906-11) \$6,492.66. Last year there was a net decrease from the previous year of \$784.17, due in part to a change in the system of payments and in part to the reduction in the number of evening sessions.

The general increase in cost of this class of service is due to the change in the character and size of the buildings. In 1897-98 the total charge for schoolhouse service in the secondary schools was \$18,434.80; in 1905-06 it was \$33,826.60; and in 1910-11 it was

\$46,921.09. The details of the increase will appear from the following statement of comparative cost of service in some of the old and the new high school buildings.

The cost for janitor service in the old Dorchester High School was \$780; with the opening of the new building in 1901 the cost increased more than five-fold to \$4,032; and last year, because of the new annex, it reached \$5,016. The janitor cost at the West Roxbury High School has increased from \$540 in the old school in 1898 to \$3,099 in the new school in 1911. The South Boston High School was not in existence in 1898; its present janitor cost is \$3,698. The janitor cost of the Mechanic Arts High School in 1898 was \$2,508, and in 1911, because of the enlargement, reached \$6,396. In the schools housed in the Normal Group, and including the High School of Commerce colony, the janitor cost is now over \$8,000 (Normal School, \$2,934.06; High School of Commerce, \$2,655.94; and Girls' Latin School, \$2,445.04, total \$8,035.04). In 1897-98 there was no Normal Group; the High School of Commerce was not in existence; the Normal School occupied the upper floor of a small elementary school building; the Girls' Latin School was in hired quarters; and the cost of schoolhouse service was comparatively insignificant.

In the elementary schools the total amount paid for this class of service in 1897-98 was \$115,525.02; in 1905-06 it was \$180,318; and in 1910-11 it had increased to \$194,217. The janitor of the old Mather School in 1897-98 was paid \$708; the janitor charge in the new building in 1910-11 was \$2,800. The janitor of the old Bigelow School in 1897-98 was paid \$900; the janitor charge in the new building in 1910-11 was \$2,160. The janitor of the old Chapman School in 1897-98 was paid \$1,020; the janitor charge in the new building in 1910-11 was \$1,812. In the Washington School, opened at the West End in 1904, the schoolhouse service cost was \$3,324, whereas in such an old-fashioned

building as the Charles Sumner School at Roslindale the cost in 1897-98 was \$780 and is now but \$996.

The salaries paid janitors seem large in many instances, but the amount named covers the personal service not only of the janitor in charge, but the skilled engineers and a large number of necessary subordinates whom he employs and pays. The figures given also include in several instances the pay of matrons in the high schools and in those buildings which have baths, the standard wage of matrons being \$540 per year.

In January, 1904, a carefully prepared scientific salary schedule for janitors of elementary schools was adopted by the School Committee, which was extended to Latin and high schools in 1907, and this has since been strictly adhered to by the school authorities. The factors of service are divided into (1) cleaning, (2) heating, ventilation and superintendence, (3) washing of windows, (4) care of yards and sidewalks, and (5) care of lawns. The buildings are classified and the compensation is based upon actual areas; there is thus no overpayment to individual janitors through favoritism, as was often the case formerly, but each janitor is paid for exactly what he does or provides.

5. *Other Salaries.*

Prior to 1907-08 the salaries of instructors in physical education, including military drill, were charged to the general item of "Salaries of Instructors." Since 1907, when a special part of the tax rate was segregated for this purpose, such salaries (including that of the director of school hygiene, \$3,756) have been kept as a separate charge, which has gradually grown from \$15,592 in 1907-08 to \$51,593.78 in 1910-11. The instructor in military drill receives \$2,004. The medical inspector receives \$1,008.

The salaries of school nurses, beginning with \$4,014.13 in 1907-08, have increased to \$26,476.55 in 1910-11, under the special statutory provision regarding nurses.

The salary of the supervising nurse is \$1,212 minimum, and maximum \$1,500; while assistant nurses receive a minimum of \$648 and a maximum of \$840.

Kindergarten maids were at first paid 25 cents a day for attending to the wants of the young children; this has been increased to 50 cents a day for a single session or 80 cents a day for two sessions.

Some of these salaries are low; and in the opinion of the Finance Commission none are too large.

SECTION 7. FUEL, LIGHT AND POWER.

The total cost of fuel, light and power in the three representative years was as follows:

1897-98	.	.	.	\$85,740 71					
1905-06	.	.	.	163,303 53	Increase	.	.	\$77,562 82	
1910-11	.	.	.	157,446 77	Decrease	.	.	5,856 76	
Net increase									<u>\$71,706 06</u>

The cost of coal increased \$55,819.37 in the "first subperiod" (1898-1905) and decreased \$6,890.89 in the "second subperiod" (1906-11). Were it not for the substitution of bituminous coal for anthracite, as already described, there would have been a large increase in the "second subperiod" instead of a decrease. Great care is taken in the purchase of coal; contracts are awarded to the lowest bidder after advertisement, upon carefully prepared specifications; and the coal delivered is analyzed in order that the schools shall pay only for what is received.* The cost of wood decreased \$1,679.69; and the cost of gas decreased \$3,178.91; while the cost of electric light and power increased \$5,892.73. Electric light cost \$15,564.16 in 1908-09, and \$22,314.35 in 1910-11, an increase of \$6,750.19 in these two years over the previous year. This will be a serious factor in the cost of school maintenance in the future.

*The expense of analysing coal last year was \$335.15.

SECTION 8. SUPPLIES AND INCIDENTALS.

The cost of this item, which includes books, supplies and incidentals of all kinds, and which represents an essential part of the school system, amounts to only about $5\frac{1}{4}$ per cent of the total school expenses. It is the one branch which seems to be most easily neglected when there is a financial pressure. The cost in the three representative years was as follows:

1897-98	.	.	.	\$128,863 67					
1905-06	.	.	.	181,325 60	Increase	.	.	\$52,461 93	
1910-11	.	.	.	224,693 35	Increase	.	.	43,367 75	
Total increase								<u>\$95,829 68</u>	

The average annual increase for the "period" was \$7,371.51; for the "first subperiod" \$6,557.75, and for the "second subperiod" \$8,673.55. In 1909-10 the increase was \$55,547.61, following a decrease in the previous year of \$16,331.99; in other words an expensive year followed a year of parsimony.

SECTION 9. REPAIRS, ETC.

This branch of the school work is under the Board of Schoolhouse Commissioners, and as already stated the Finance Commission desires to reserve its report thereon until a later period.

SECTION 10. TRUST FUNDS.

From time to time charitably disposed persons have left to the city trust funds to be used for the benefit of individual schools, or those in a particular locality. These trusts are as follows:

1. Bowdoin Fund, established in 1797 by James Bowdoin for the benefit of the Dorchester (and by a ruling of the Corporation Counsel, South Boston) schools . . . \$4,500 00
 2. Charlestown School Fund, under an act of the Legislature passed in 1793, incorporating the "Trustees of the Charlestown Free Schools" . . . 8,873 53
- | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|--------------------|--|
| Carried forward | . | . | . | . | . | . | . | <u>\$13,373 53</u> | |
|-----------------|---|---|---|---|---|---|---|--------------------|--|

<i>Brought forward</i>	\$13,373 53
3. Comins School Fund, a donation by Linus B. Comins in 1855, for the library of the Comins Grammar School in Roxbury	500 00
4. Devens Infant School Fund, established under the will of David Devens, who died in 1855, for the benefit of infant schools in Charlestown. The income is now paid to the Hunt's Asylum for Destitute Children in Charlestown	1,000 00
5. Eastburn School Fund, bequeathed by John H. Eastburn who died in 1873, to help deserving pupils through the Normal School	11,000 00
6. Franklin Medal Fund, established under the will of Benjamin Franklin, the medals being given to graduates of the Boston Latin School, English High School and Mechanic Arts High School, who have attained high rank in scholarship and conduct	1,000 00
7. Gibson School Fund, bequeathed about 1674 by Christopher Gibson for the benefit "of the schools of learning in the town of Dorchester," which includes South Boston	73,340 43
8. Horace Mann School Funds:	
(a) Samuel E. Sawyer Fund	\$2,400 00
(b) Elizabeth Lewis Fund	1,000 00
(c) Susan E. Gavett Fund	5,000 00
	<hr/> 8,400 00
9. Latin School Prize Fund, donation made by a number of gentlemen in 1819, the income for prizes to pupils who attain high rank in the Latin School	1,050 00
10. Lawrence High School Fund, a donation made by Abbott Lawrence in 1844, for prizes to pupils who attain high rank in the English High School	2,000 00
11. Lawrence Latin School Fund, a donation made by the same benefactor in 1845 for prizes to pupils who attain high rank in the Latin School	2,000 00
12. Milmore Brimmer School Fund, bequeathed by Martin Milmore who died in 1883, to aid in clothing poor children attending the Brimmer School, now merged with the Abraham Lincoln School	500 00
13. Norcross School Library Fund, donation by Otis Norcross to be expended in books for the library of the Norcross School in South Boston	1,000 00
14. Sherwin School Graduates' Fund, contributed by graduates and others interested in that school for its benefit,	255 50
15. Smith Fund, bequeathed by Abiel Smith, who died in 1815, for the "Free Instruction of Colored Children in Reading, Writing and Arithmetic," now credited to general public school expenses, there being no schools exclusively for colored children	8,600 00
<i>Carried forward</i>	<hr/> \$124,019 46

<i>Brought forward</i>	\$124,019 46
16. Stoughton School Fund, a bequest in the will of Gov. William Stoughton, who died in 1701, for "the advancement of the salary of the schoolmaster," now credited to teachers' salaries generally	5,300 00
17. Teachers' Waterston Fund, a bequest in the will of Rev. Robert C. Waterston who died in 1893, to provide lectures for teachers upon natural history	4,800 00
18. Webb Franklin School Fund, a bequest in the will of Rufus Webb, for many years a writing master in the Franklin School, who died in 1827, to furnish free text-books for the use of indigent scholars belonging to said school. As the city under the law now furnishes free text-books to all scholars, this income is paid to the master of the school to furnish supplementary books, etc., as the school may need	2,000 00
	<u>\$136,119 46</u>

SECTION 11. INCOME.

The state pays almost the entire cost of the Horace Mann School, and one-half the cost of the independent industrial schools. Substantial sums are paid by or on behalf of nonresident pupils in the Normal and other schools. There are receipts from the sale of badges to licensed minors; of books and supplies; and of materials made at the Trade School for Girls. The schools also receive each year the fees for dog licenses, less such amounts as may be paid by the city for damages done by dogs; the net receipts from this source last year were \$25,919.34. These and other incidental receipts, which vary in character and amount each year, make up the items of income which must be deducted from the gross maintenance cost of the schools to ascertain the net amount which is paid by the taxpayers. In 1897-98 they amounted to \$42,287.16; in 1905-06 to \$57,246.54; and in 1910-11 to \$78,237.23.

SECTION 12. THE COST OF THE CHANGE FROM NINE TO EIGHT GRADES.

The change from nine to eight grades in the elementary schools, which was made in 1906, caused much adverse criticism; and the statement was seriously made at one of the public hearings held by the Finance Commission

that "the figures show that the abolishing of the ninth grade cost the city \$240,000 a year." This is clearly an over-statement. In the year of the change the total increase over the previous year in maintenance cost of all kinds of all the schools, day and evening, was \$66,656.56, and in the following year, \$105,921.83; and in no year, outside of pensions and expenses required by law, has the increase reached the figures named. Only a small part of the total increase can be attributed to the change in the number of grades. It is extremely doubtful whether there was any substantial expense involved in the change. A comparison of average cost which includes all grades is not quite fair. The true comparison should be between the cost of the highest grade in the elementary and the lowest grade in the high schools, which are the only grades affected by the change, and here the difference will be found not to be very great. The teachers of the ninth grade were the highest paid of elementary teachers, and generally on the maximum salaries, while the teachers of the first grade in the Latin and high schools are on the lower salaries, and generally near the minimum.

One reason for the change was the desire to facilitate the progress of capable children through the schools. A child of average intelligence can do the required work in eight years, and it is a waste of time and money to hold back such a child an extra year. The system of nine grades was a mere survival of the separation between the primary and grammar grades which so long existed in Boston. There were three primary grades and six grammar grades, which together made nine; in many minds there thus grew up something almost sacred about the number nine, and anyone who advocated a change was regarded as an iconoclast, notwithstanding that eight is the standard number of grades in most school systems. The change was recommended in 1900 by a former superintendent, who said (School Document No. 4 of 1900, page 36): "Boston stands almost alone among the large cities of the country in

maintaining nine grades below the high school." It is of course possible that the same result might have been achieved in a more economical and perhaps better way by retaining the ninth and making it a more advanced grade, preparatory to the high schools; but this is an administrative detail and even those who advocate it have no desire to return to the nine grades in their old form. In the opinion of the Finance Commission any increased expense resulting from the change has been justified by the enlarged opportunities for high school education.

Table II.
Cost of Boston Schools for Fourteen Years.

	1897-98.	1898-99.	1899-1900.
(A) SALARIES.			
1. Instructors.....	\$1,817,218 00	\$1,903,255 18	\$2,063,611 70
2. Physical education instructors.....	—	—	—
3. Officers.....	60,385 00	70,645 28	68,945 33
4. Janitors, engineers, matrons.....	139,220 29	147,777 48	150,737 79
5. Nurses.....	—	—	—
6. Kindergarten maids.....	1,897 95	2,136 70	2,180 10
Total salaries.....	\$2,027,721 24	\$2,183,814 64	\$2,285,474 92
(B) TEACHERS' PENSIONS.....			
	—	—	—
(C) FUEL, LIGHT AND POWER.			
1. Coal.....	\$74,306 75	\$75,946 75	\$69,175 94
2. Wood.....	2,739 45	2,792 57	2,986 68
3. Gas.....	8,694 51	10,757 34	12,528 00
4. Electricity (light)*.....	—	—	—
5. Electricity (power).....	—	—	—
Total fuel, etc.....	\$85,740 71	\$89,496 66	\$84,690 62
(D) WATER.....			
	\$10,275 58	\$13,439 20	\$14,275 10
(E) SUPPLIES AND INCIDENTALS.			
1. Books.....	\$50,509 73	\$54,325 53	\$58,184 03
2. Printing.....	7,350 37	9,110 79	6,402 68
3. Miscellaneous items.....	71,003 57	72,759 91	81,719 61
Total supplies, etc.....	\$128,863 67	\$136,196 23	\$146,306 32
(F) REPAIRS, RENTS, ETC.....			
	\$229,941 27	\$240,973 69	\$282,708 26
(G) TRUST FUNDS.....			
	\$1,904 30	\$3,050 69	\$3,241 86
Total cost of maintenance.....	\$2,484,446 77	\$2,675,971 11	\$2,816,697 08
Income from nonresidents, trust funds, etc.....	42,287 16	42,210 35	45,681 35
Net cost of maintenance.....	\$2,442,159 61	\$2,633,760 76	\$2,771,015 73
Increase from previous year.....	—	\$191,601 15	\$137,254 97
Amount spent for new buildings, land, etc.....	\$930,716 40	\$626,515 93	\$822,107 37

* Included in charge for gas until 1904-05.

Table II.
Cost of Boston Schools for Fourteen Years.

1900-01.	1901-02.	1902-03.	1903-04.
\$2,178,597 72	\$2,293,776 36	\$2,426,850 45	\$2,529,177 79
—	—	—	—
83,168 88	89,531 75	80,827 21	82,342 82
157,385 45	171,791 88	190,506 93	196,917 44
—	—	—	—
2,500 25	3,082 75	4,484 90	7,562 00
\$2,421,752 20	\$2,558,182 69	\$2,702,669 49	\$2,816,000 05
—	—	—	—
\$75,675 39	\$89,392 55	\$66,431 80	\$179,016 40
2,973 81	3,112 41	7,047 04	6,316 53
13,484 15	14,132 82	20,005 20	26,685 70
—	—	—	—
—	—	2,912 12	2,644 74
\$92,133 35	\$106,637 78	\$95,394 61	\$214,663 27
\$4,394 66	*	—	—
\$58,806 61	20,000 01	\$74,777 17	\$39,808 40
7,512 55	10,379 87	11,774 85	13,051 15
91,499 23	94,748 39	112,176 82	106,552 59
\$157,818 39	\$171,986 87	\$196,728 34	\$159,502 14
\$299,248 45	\$329,590 45	\$366,800 00	\$364,133 00
\$1,935 29	\$2,791 81	\$4,175 78	\$3,812 27
\$2,977,282 45	\$3,169,189 60	\$3,368,768 22	\$3,558,110 83
48,455 07	45,998 80	50,030 04	47,962 82
\$2,928,827 28	\$3,123,190 80	\$3,318,738 18	\$3,510,148 01
\$157,811 65	\$194,363 42	\$195,547 88	\$191,409 83
\$737,183 81	\$838,074 64	\$945,069 34	\$1,440,655 31

* Not charged for since 1900.

Table II.—*Concluded.**Cost of Boston Schools for Fourteen Years.*

	1904-05.	1905-06.	1906-07.
(A) SALARIES.			
1. Instructors.....	\$2,631,358 47	\$2,677,000 56	\$2,812,891 02
2. Physical education instructors.....	—	—	—
3. Officers.....	81,923 58	83,572 07	86,929 49
4. Janitors, engineers, matrons.....	212,423 76	222,733 62	227,268 09
5. Nurses.....	—	—	—
6. Kindergarten maids.....	8,448 00	8,993 00	8,923 50
Total salaries.....	\$2,934,153 81	\$2,992,299 25	\$3,135,512 10
(B) TEACHERS' PENSIONS.....			
	—	—	—
(C) FUEL, LIGHT AND POWER.			
1. Coal.....	\$123,870 48	\$130,126 12	\$102,330 71
2. Wood.....	4,051 16	4,480 53	3,944 45
3. Gas.....	28,290 46	8,642 74	8,005 96
4. Electricity (light)*.....	—	16,655 58	18,319 18
5. Electricity (power).....	2,952 56	3,396 57	2,974 83
Total fuel, etc.....	\$159,164 65	\$163,303 53	\$135,575 11
(D) WATER †.....			
	—	—	—
(E) SUPPLIES AND INCIDENTALS.			
1. Books.....	\$41,975 48	\$53,113 73	\$56,700 87
2. Printing.....	11,311 14	12,558 53	10,019 68
3. Miscellaneous items.....	116,828 53	115,653 35	113,687 90
Total supplies, etc.....	\$170,115 15	\$181,325 60	\$180,408 45
(F) REPAIRS, RENTS, ETC.....			
	\$357,305 73	\$336,700 00	\$288,100 00
(G) TRUST FUNDS.....			
	\$2,644 10	\$4,187 79	\$4,060 64
Total cost of maintenance.....	\$3,623,383 44	\$3,677,816 17	\$3,743,646 30
Income from nonresidents, trust funds, etc.....	57,213 81	57,246 54	56,420 11
Net cost of maintenance.....	\$3,566,169 63	\$3,620,569 63	\$3,687,226 19
Increase from previous year.....	\$56,021 52	\$54,400 00	\$66,555 56
Amount spent for new buildings, land, etc.....	\$2,114,851 23	\$1,033,829 17	\$716,482 77

Total amount expended in thirteen years for land and new buildings, \$12,718,049.40.

* Included in charge for gas until 1905-06.

† Not charged for since 1900.

Table 11.—*Concluded.*
Cost of Boston Schools for Fourteen Years.

1907-08.	1908-09.	1909-10.	1910-11.	Increase 1910-11 over 1897-98.
\$2,818,359 95	\$2,898,597 39	\$3,030,402 01	\$3,166,799 10	\$1,349,581 10
15,592 00	39,271 59	48,907 85	51,593 78	51,593 78
100,453 26	103,824 56	103,429 73	106,730 54	37,345 54
231,866 49	248,449 54	255,981 09	256,196 92	115,976 63
4,014 13	20,801 19	24,427 60	26,476 55	26,476 55
6,133 50	7,633 50	6,658 40	6,300 65	4,402 70
\$3,178,419 33	\$3,318,577 77	\$3,469,806 68	\$3,613,097 54	\$1,585,376 30
—	\$1,678 50	\$127,256 20	\$66,194 65	\$66,194 65
\$119,581 61	\$105,148 07	\$113,826 06	\$123,236 23	\$46,928 48
4,289 90	3,865 76	3,444 06	2,800 83	61 38
6,092 44	6,067 76	5,636 85	5,463 83	—
16,057 78	15,504 16	21,246 15	22,314 35	22,716 20
2,844 92	3,375 19	5,834 53	3,632 53	—
\$148,866 65	\$134,020 94	\$149,967 67	\$157,446 77	\$71,706 06
—	—	—	—	\$10,275 58*
\$61,554 01	\$42,572 85	\$71,513 18	\$65,121 14	\$14,611 41
10,195 18	10,996 40	9,813 07	13,281 41	5,931 04
115,510 07	117,358 02	145,148 63	146,290 80	75,287 23
\$187,259 26	\$170,927 37	\$226,474 88	\$224,693 35	\$10,275 58*
\$330,300 00	\$333,500 00	\$342,975 30	\$358,500 00	\$128,558 73
\$2,602 66	\$2,537 24	\$2,465 47	\$7,522 10	\$5,617 80
\$3,847,447 90	\$3,961,591 72	\$4,319,456 20	\$4,427,454 41	\$1,943,007 64
54,299 88	66,746 83	71,319 47	78,237 23	35,950 07
\$3,793,148 02	\$3,894,844 89	\$4,248,136 73	\$4,349,217 18	\$1,907,057 57
\$105,921 83	\$101,696 87	\$353,291 84	\$101,080 45	—
\$841,906 04	\$771,019 50	\$795,402 00	\$1,034,933 29	—

* Decrease.

PART IV. COMPARISON WITH OTHER CITIES.

1. INTRODUCTORY.

In the belief that a study of the administration of Boston's public schools should include a comparison of its school expenditures with those of other cities, the Finance Commission, on July 7, 1910, engaged Mr. John Koren to collect and tabulate the essential data for this purpose. A comparison of three years of school administration in the leading cities of the United States was first intended, but it was soon found to be practically impossible to extend the inquiry over more than one year. The school authorities either would not, or could not, furnish the data for a longer period; in fact, it was only by the most persistent endeavors that the data for even one year were finally obtained. This is not to be wondered at in view of the scope of the investigation and the great amount of unpaid labor which the busy school officials of other cities were asked to perform. Though the information received from the various cities is not complete, it is all that could be expected, and the Finance Commission is sincerely grateful for all the assistance it has received.

It was not possible to obtain statistics for the school year which had just closed (1910), as the reports were not printed and in many cases the data had not been collected and tabulated by the local authorities. There was nothing else to do, therefore, but to select the previous school year (1909) for investigation.

Mr. Koren submitted his report to the Finance Commission on July 18, 1911, about a year after the work was begun, and he states that the many difficulties of the task made it impossible to finish sooner.

In the first place, the necessary data could not be

found in the school reports of cities or states, in census reports or in any other publications. This is made clear by the following extract from Mr. Koren's report:

"The study was undertaken primarily for the purpose of ascertaining how expenditures for public school instruction in Boston compare with those in other cities. The answer is not to be found in any existing publications. A comparative study of school reports will not disclose the facts. In their present form these reports provide but a very limited quantity of comparable data. Each school board follows its own system of financial and other exhibits. There is no common model. Some school boards give financial and general statistics with a wealth of detail; others content themselves with a meagre presentation, chiefly of totals. As a rule, little effort is made to analyze the facts and figures and show their relations. The terminology employed is so varied that it frequently bewilders, and nullifies attempts at classification of important items for the purpose of comparison. While there are school reports which no doubt fully serve all the requirements of local students of school finances, very many of them appear to be lacking even in this respect. And when the object is to contrast conditions elsewhere with those of a given city, they fail to meet the situation because of their dissimilarity in scope and methods of presentation. The somewhat chaotic status of school statistics generally is abundantly attested by the widespread movement to secure the adoption of a uniform system for all statistical exhibits.

Existing state and national reports of school expenditures do not provide a fact basis enabling one to make satisfactory comparisons between cities. The most authoritative and most widely quoted source of information about school expenditures in cities is the annual publication of the Bureau of the Census, under the title "Statistics of Cities." The exhibits therein contained of school finances, classified and shown in connection with municipal finances generally, are ample for

the purpose for which they are intended. To know the total and per capita cost of maintaining public schools, the total and per capita of receipts from subventions, grants, territory, etc., and the details of such totals in their various relations, is essential in a study of municipal finance. But it does not answer the question, whether the public school instruction in one city is more expensive than in another city, as that is a matter which is not settled by the simple process of contrasting per capita costs, but must be viewed in the light of the numerous conditions governing school expenditures."

In the second place, because of the impossibility of obtaining the necessary data from existing publications, the school officials had to be relied upon to answer a series of questions, framed for the purpose of reducing the essential information to a common basis, and this method involved a great deal of time and labor, as is shown in the following extract from Mr. Koren's report:

"Even within the limited field of inquiry adopted, unexpected and extraordinary difficulties were met in collecting the required facts. The difference of methods of recording and classifying items of finance and school facts generally caused much perplexing labor. Not only is there a total lack of uniformity in classifying school statistics generally, but some distinctions of which one school system makes much may be wholly lacking in another. In order to insure conformity and thus comparability, the co-operating school boards had to do much more than copy totals from their books and reports. In some instances school authorities frankly confessed their inability to supply certain information; and because of the amount of work required to fill out the schedules submitted and the common scarcity of clerical help in many school boards, the inquiry has dragged out over a wholly unanticipated period of time. In several cases school boards finally found themselves unable to furnish all the desired information, and not a single schedule of financial statistics

was received that did not require amendations or explanations entailing voluminous correspondence and consuming much time."

The twenty cities which have furnished the data set forth in the tables hereto annexed are:— Boston, New York, Chicago, Philadelphia, St. Louis, Cleveland, Baltimore, Milwaukee, San Francisco, Washington, Minneapolis, Indianapolis, Providence, St. Paul, Worcester, Fall River, Lowell, Cambridge, Lynn and Springfield. Attempts were made to secure data from other cities, but the results were unsatisfactory. New Orleans, Cincinnati and Pittsburgh furnished no information. Buffalo responded, but the data were not used, as the average number of pupils attending the schools was not furnished. The figures given related only to the total enrollment, and were therefore not comparable with the cities which furnished attendance figures. The data obtained from Detroit were so meagre that they also were excluded. The attempt to secure data from the seven most populous Massachusetts cities, next to Boston, was fairly successful, as all except New Bedford responded. The commission would have had a wider basis for comparison if more cities had been included, but the twenty cities which furnished comparable data are fairly representative of the public school system in the United States in respect to population, to the kind of instruction furnished, and to the popular appreciation and support of public schools.

Before final conclusions are drawn from the statistical tables hereto annexed, a word should be said regarding the danger of reading such statistics without recognizing the inevitable lack of absolute comparability of certain items of school data. Though great pains have been taken to obtain comparable statistics, they are not always predicated upon absolutely the same basis. The various forms of school organizations, and the widely different systems of accounting, are the principal, but by no means the only reasons, which make it impossible to reduce all data to a uniform basis. One

source of danger has been avoided by excluding from the cost of the various public school systems such important but (as respects cost) widely fluctuating factors of school administration as the expenditures for land and buildings, rents of hired school accommodations, repairs, alterations, furniture and pensions. Hence the "cost of conducting schools" is intended herein to cover only the more comparable items of salaries of instructors, officers, janitors, matrons, medical inspectors and nurses, and the expenditures for fuel, light, water, power, supplies and incidentals; these various items being divided into two classes, designated "cost of instruction" and "cost of physical maintenance."

Another source of erroneous conclusions has been avoided by excluding from the tables the per capita cost of schools based on the total population of cities, as such per capita statements are extremely misleading since they ignore such important factors as the proportion to general population of school children to be provided for, and the distribution of pupils in the various grades of schools. As Mr. Koren points out:

"That a city which has a relatively small proportion of children in public schools as well as a relatively small number in the higher schools should escape with a lower cost per capita of population than a city in which these conditions are reversed is quite obvious."

Two other sources of possible error should be mentioned. The per capita cost based on the number of pupils in the schools, though more reliable than the per capita cost based on general population, is often misleading. As the costs per pupil are given in the annexed tables the importance of using them with great caution should be emphasized.

The per capita cost is computed by dividing the total cost of the school system by the total number of pupils in all schools, which is an unreliable medium of comparison as the difference in the cost per pupil in high, elementary and evening schools is so great that any material variation in the proportion of pupils in

each group of schools immediately affects any general per capita. This is shown by the following example:

City A.

10,000 high school pupils at \$80	\$800,000 00
90,000 elementary school pupils at \$30	2,700,000 00
10,000 evening school pupils at \$15	150,000 00
<hr/>	
Total 110,000 pupils	\$3,650,000 00
Per capita cost for the whole system	\$33 18

City B.

12,000 high school pupils at \$81	\$972,000 00
100,000 elementary school pupils at \$31	3,100,000 00
30,000 evening school pupils at \$16	480,000 00
<hr/>	
Total 142,000 pupils	\$4,552,000 00
Per capita cost for the whole system	\$32 06

City C.

20,000 high school pupils at \$79	\$1,580,000 00
100,000 elementary school pupils at \$29	2,900,000 00
15,000 evening school pupils at \$14	210,000 00
<hr/>	
Total 135,000 pupils	\$4,690,000 00
Per capita cost for the whole system	\$34 74

In city B the cost of every pupil in all three groups of schools is \$1 more than in the corresponding groups in city A, but the increase in number of pupils in the different groups is not proportionate. In other words, while the whole system has actually cost \$1 more per pupil in each group in city B than in city A, the total per capita cost is \$1.12 less in city B.

The cost per pupil in each group in city C is \$1 less than in city A, but owing largely to the increase in the number of high school pupils the total per capita cost is \$1.56 more in city C than in city A.

Finally, it should also be borne in mind that the figures used in the tables have been furnished by the school authorities of the various cities, and that the Finance Commission has been obliged to rely upon their accuracy without any practical means of checking up the figures independently, except in Boston where they have been

verified by the school officials who were examined by the Finance Commission for this purpose. The figures used in the tables are not invariably in agreement with the school reports, owing to the attempt to reduce the figures of cost and other data in the twenty cities to a uniform basis of classification. In all cases the school authorities of the different cities have assumed the responsibility for the accuracy of all the statistics utilized in this report.

2. THE STATISTICAL TABLES.

The study of the comparative costs of public schools will be helped by a preliminary examination of such school factors as are shown in Tables I. to V., inclusive. The remaining tables, VI. to XIII., inclusive, are devoted to a presentation of the cost of conducting the schools. Boston's relative position in all these tables will be emphasized, as the purpose of the investigation is to find out how Boston's school expenditures compare with those of other cities.

TABLES I. AND II.

The first table contains the estimated population in the year 1909, the total enrollment of pupils, the enrollment in day, evening and special schools and the number enrolled to each 100,000 of the population. The second shows the compulsory school age and the minimum age at admission to elementary schools and kindergartens, the length of the school year and the number of elementary grades. These two tables are important chiefly as showing popular appreciation of free education, for they show a high enrollment and indicate a good enforcement of the school laws. The population and enrollment figures also serve as bases for further tables which show the actual attendance and which have a direct bearing on the question of the cost of schools.

In the ten cities exceeding 300,000 in population

(hereinafter called the "first group" *) the total enrollment per 100,000 of population ranges from 20,297 in Boston to 11,516 in Philadelphia. In the ten cities with less than 300,000 population (hereinafter called the "second group" †) the rate ranges from 20,927 in Springfield to 13,289 in St. Paul. Only two of the twenty cities [both in Massachusetts, namely, Springfield (20,927) and Cambridge (20,358)] lead Boston (20,297) in the rate of enrollment.

Considering day and night schools separately, Boston is again found to lead the first group of cities, the rate ranging from 17,009 (Boston) to 10,980 (Philadelphia) for day schools and 3,264 (Boston) to 479 (Philadelphia) for night schools. In the second group of cities the range is from 17,622 (Springfield) to 12,907 (Lowell) in day schools and from 3,751 (Lowell) to 190 (Indianapolis) in night schools. As to both day and night schools, Boston is exceeded by two Massachusetts cities, Springfield having 17,622 and Cambridge 17,558, as compared with Boston's 17,009, in day schools; and Lowell having 3,751 and Springfield 3,305, as against Boston's 3,264, in night schools.

The school departments differ so widely in their classification of special schools that no valid comparisons can be made of the enrollment figures of such schools. In some cities, such as St. Louis, San Francisco, Washington and Indianapolis, schools which elsewhere would be called special schools are combined with the regular schools and hence the separate figures are not obtainable. In other cities where separate figures are given the differences are so great as to suggest the widest divergence in classification. Thus, New York appears to have in special day schools only 6 per 100,000 of population, while Cleveland appears to have 162, Chicago 190 and Providence 218. Because of the variety of classifications and the resulting impossibility

* Boston, New York, Chicago, Philadelphia, St. Louis, Cleveland, Baltimore, Milwaukee, San Francisco, Washington.

† Minneapolis, Indianapolis, Providence, St. Paul, Worcester, Fall River, Lowell, Cambridge, Lynn, Springfield.

of making just comparisons of the special schools in the different cities these schools will not be commented upon hereinafter in the analysis of the tables.

TABLES III.A, III.B, IV. AND V.

The next group of tables, III.A, III.B, IV. and V., deals with the distribution of pupils and the average quota of pupils per teacher in the various groups of schools. The ratios of pupils to population are based on the average number of pupils belonging in the various groups of schools, and not upon the enrollment figures, as was the case in the first table. Therefore a better idea is conveyed of the actual attendance and consequently of the real burden of the various school systems. To what extent the various cities maintain the secondary schools, which are more expensive than the elementary schools, and how far such maintenance accounts for the high total cost of conducting all schools in some cities as compared with others, are questions upon which these tables shed considerable light.

III.A, Day Schools.

This table shows the average number of pupils belonging in day schools and their ratio to each 100,000 of population. Only three classes of day schools, high, elementary and kindergarten, afford comparisons of value. Special schools, as already stated, will be eliminated, and as many cities maintain no normal schools they also will be eliminated.

High Schools.—In the first group of cities the ratio of the average number of pupils belonging in the high schools to each 100,000 of population ranges from 1,483 in Boston to 607 in Philadelphia. In this expensive grade of schools only one city of the first group, Washington (1,290), approaches Boston. None of the rest, except Cleveland (854) and Milwaukee (852), furnish even half as large a proportion as Boston. Chicago and St. Louis, both frequently compared with

Boston as to total per capita school costs, furnish only 663 and 652 high school pupils per 100,000 of population respectively; in both cases less than 45 per cent of Boston's proportion. In other words, Boston's high school pupils, per 100,000 of population, outnumber those of Chicago and St. Louis combined. Such exhibits as these show the grossly misleading character of comparisons based on cost per capita of general population.

In the second group of cities the number per 100,000 of population ranges from 1,733 in Minneapolis to 683 in Fall River; two Massachusetts cities, Springfield (1,692) and Cambridge (1,602) standing next in rank to Minneapolis. Only three of the twenty cities exceed Boston, namely, Minneapolis, which maintains no evening high schools and whose large ratio of pupils in day high schools is thus largely accounted for, and two smaller and therefore less comparable cities in Massachusetts.

Elementary Schools.—In the first group of cities the ratio of average number of pupils belonging varies from 12,722 in New York to 8,818 in Milwaukee, Boston being a close second to New York, with 12,564 per 100,000. In the second group the ratio ranges from 13,206 in Cambridge to 9,342 in St. Paul. Only two of the twenty cities in both groups, New York and Cambridge, have a larger proportion of elementary pupils to total population than Boston.

Kindergartens.—This is a comparatively unimportant branch, as the number of kindergarten pupils is but a small part of the total school population. In the first group of cities the rate per 100,000 of population ranges from 1,096 in Milwaukee to 14 in San Francisco. St. Louis has 1,045. Cleveland, with 880, and Boston, with 849, rank next to St. Louis. In the second group St. Paul leads with 1,164, Springfield and Cambridge standing next with 780 and 771 respectively, and Fall River, with 116, being the lowest.

Table III.B, Evening Schools.

The average number of pupils belonging and the ratio to general population are given as to high, elementary and special schools. The first two only will be considered, the third being excluded from the comparisons for reasons already stated.

Evening High Schools.—In the first group of cities Boston stands first with 636 pupils to each 100,000 of population, its nearest competitor, Cleveland, having 337, or a little over one-half as many; and Washington, with 63, stands the lowest. In the second group the ratio runs from 636 in Lowell to 79 in St. Paul. Boston's ratio of evening high school pupils to general population is equal to Lowell's, but it exceeds all the other cities in both groups.

Evening Elementary Schools.—Boston leads the first group of cities with 1,099, New York being next with 977, and Baltimore is last with 323. In the second group Lowell is first with 1,566, Fall River next with 1,303, and Indianapolis with 92, is last. Leaving out Cambridge, Boston is surpassed by only two of all the cities. Cambridge cannot be compared with the other cities either as to high or elementary evening schools, as in Cambridge the average number of pupils belonging in evening elementary schools is combined with that of evening high schools; but it is worthy of note that the ratio of pupils in high and elementary evening schools combined to each 100,000 of population is 2,543 in Cambridge, which is considerably higher than that of any other city in either group.

TABLE IV.—NUMBER AND PERCENTAGE OF PUPILS IN
GROUPS OF DAY SCHOOLS.

This table throws more light on the differences in the costs of school systems in various cities than any of the preceding tables, as it deals not only with the total number of pupils in all day schools but also shows

the percentage each group of day schools bears to the whole. It is useful, of course, to know the population in a given city, the number of pupils enrolled, the ratio of pupils to population, and the average attendance in the schools, but none of these factors is so essential to the study of the cost of a school system as the knowledge of the extent to which different grades of schools of varying degrees of expensiveness are provided. It will be found to be true, generally speaking, that if one school system provides for a much greater proportion of high school pupils than another it will be costlier to maintain, but less costly if the proportion of elementary school pupils is greater.

For reasons already given the normal and special schools will not be considered and only the high, elementary and kindergarten schools will be compared.

High Schools.—In the first group of cities Boston shows the largest percentage of pupils in high schools, 9.92; Washington and Milwaukee following with 8.97 and 7.87 per cent, respectively; then come San Francisco, 6.97; Cleveland, 6.82; Baltimore, 6.16; St. Louis, 6.12; Chicago, 5.90; Philadelphia, 5.25; while New York, with only 4.81 per cent, is last. This means that in Boston approximately one of every ten pupils is in the high schools. In New York, which is at the foot of the list, there is only one in every twenty. In Chicago and St. Louis, which, as already stated, are often compared with Boston as to per capita costs, approximately only one pupil in seventeen and one in sixteen, respectively, are in the high schools; but this fact is usually ignored by the critics of Boston schools who are accustomed to make comparisons of per capita costs. The higher percentage of pupils attending the Boston high schools goes far to explain the high total per capita cost of Boston's schools as compared with some of the larger cities in the United States.

In the second group of cities the percentage of pupils in high schools ranges from 12.78 in Minneapolis to

5.50 in Fall River. Besides Minneapolis and Indianapolis (10.32), whose larger percentages are partly accounted for by the fact that they, unlike Boston, maintain no evening high schools, there are four cities (all in Massachusetts) which maintain evening high schools and whose percentage of pupils in day high schools is greater than Boston's (9.92), namely, Springfield, Worcester, Lynn and Lowell, with 11.29, 10.35, 10.32 and 9.94, respectively. Cambridge has 10.28 per cent in the day high schools, but as the attendance in the evening high schools is not given, no fair comparison with Cambridge can be made.

Elementary Schools.—In the first group of cities the percentage of pupils in elementary schools ranges from 92.65 in San Francisco to 81.50 in Milwaukee. Boston, with 84.03 per cent, has to provide for a smaller proportion of pupils in this relatively cheaper grade of schools than any of the following seven cities, namely, San Francisco, 92.65; Baltimore, 92.08; New York, 91.17; Chicago, 89.21; Philadelphia, 88.59; Washington, 86.25, and Cleveland, 84.53 per cent.

In the second group of cities the percentage in question varies from 90.94 per cent in Fall River to 80.61 in St. Paul. Boston has a smaller proportion of elementary pupils to provide for than any of the cities in this group, except St. Paul, which has 80.61, and Springfield, which has 83.49 per cent.

Kindergartens.—In the first group Milwaukee and St. Louis stand quite alone with percentages of 10.13 and 9.81, respectively, of kindergarten pupils. The next highest is Cleveland, with 7.04 per cent. Boston leads the remaining cities in this group with 5.68 per cent; the others have about 4 per cent except Baltimore, which has 1.33, and San Francisco, which has only about $\frac{1}{4}$ of 1 per cent. In the second group the percentages range from 10.03 in St. Paul to 3.79 in Lowell, the former being the only city with a higher percentage than Boston.

TABLE V.—NUMBER OF TEACHERS AND NUMBER OF PUPILS PER TEACHER IN DAY SCHOOLS.

The size of a class which a teacher has to instruct determines to a large extent the educational process of the schools as well as their cost. Large classes mean fewer teachers and less cost for teachers' salaries. Obviously a city which increases the number of teachers by reducing the quota of pupils per teacher will by so doing increase the expense of instruction, and *vice versa*.

High Schools.—The number of pupils per teacher, based on the average number of pupils belonging, ranges from 29 in Boston to 18 in Washington in the first group of cities; and from 33.6 in Lowell to 18.8 in Springfield in the second group. The financial disadvantage Boston labors under on account of its large ratio of high school pupils in comparison with other cities is partially offset by the relatively large size of its high school classes. Only one of the twenty cities exceeds Boston in the size of high school classes. As comparisons between Boston on the one hand and Chicago and St. Louis on the other hand have been made heretofore, it should be noted that there is relatively a larger number of high school teachers in each of these two cities than there is in Boston, as the average number of pupils per teacher is 25.9 in Chicago and 20.2 in St. Louis, while Boston has 29 pupils to each teacher.

Elementary Schools.—In the first group of cities the average number of pupils per teacher ranges from 44.8 in Chicago to 36.8 in Washington. Philadelphia with 44 is second on the list, and Boston, which is third with 43, is practically on the same level with New York, Cleveland, Milwaukee and St. Louis, which have 42.8, 42.3, 42 and 41.6, respectively.

In the second group the numbers range from 41 in Minneapolis to 33 in Fall River. Minneapolis, however, should not be compared with the other cities as the kindergartens are included with the elementary schools.

No city in the second group has as large an average number of elementary pupils per teacher as Boston.

Kindergartens.—In the first group the average number of pupils per teacher ranges from 54.8 in Cleveland to 16.2 in Washington, Boston with 26 being seventh on the list. In the second group the numbers vary from 44.2 in Springfield to 18.9 in Lowell, only two cities in this group, Springfield (44.2) and St. Paul (40.3), having larger classes than Boston.

COST OF CONDUCTING SCHOOLS.

The remaining tables deal with the "Cost of Conducting Schools," that term, as already explained, excluding such items as land and buildings, repairs, rents, furniture and pensions. The costs given in these tables apply only to two main groups of expenditures which are common to all school systems and which constitute the great bulk of all school expenditures, namely, salaries and physical maintenance, the first term including all the salaries for the kinds of service under consideration, and the second including the expenditures for light, water, fuel and power, books, supplies and incidentals.

TABLE VI.—PER CAPITA COST OF CONDUCTING PUBLIC SCHOOLS.

The total cost of salaries and physical maintenance are shown together with the average number of pupils belonging and the cost per pupil based thereon. While the total per capita cost of all pupils in the schools has already been shown to be a questionable standard at best, it is of interest when due allowance is made for the various elements of school administration which influence the per capita cost and which often explain the seeming extravagance of one city as compared with another. It has already been shown how the cost per pupil in each of three groups of schools in one city may be lower than the cost in each of the corresponding groups in another city while the total per capita cost

for all pupils is higher in the former city than in the latter; and this should be a sufficient caution to those who make comparisons of per capita costs.

In the first group the cost per pupil ranges from \$38.75 in San Francisco to \$24.49 in Baltimore. New York (\$36.87) is second to San Francisco, Boston is third with \$34.92 and Washington with \$34.85 is fourth. The high cost of San Francisco and New York as compared with other cities in this group cannot be accounted for by the proportion of high school pupils to the total number of pupils in the schools, as the figures in Table IV. have shown that other cities in the group have higher percentages of high school pupils. Therefore the higher cost must be explained largely by the high scale of salaries prevailing in these two cities. The high cost per pupil in Boston as compared with other cities in this group is chiefly accounted for by the larger percentage of high school pupils.

In the second group the cost varies from \$37.87 in Springfield to \$23.69 in Fall River. Springfield is the only city in this group which exceeds Boston's cost (\$34.92) and Indianapolis (\$34.31) is the only city which closely approaches it.

TABLE VII.—COST OF CONDUCTING SCHOOLS, CLASSIFIED BY AMOUNT AND PERCENTAGE OF SALARIES AND PHYSICAL MAINTENANCE.

The cost of conducting schools and the amount and per cent of salaries and physical maintenance are shown in this table. It throws little additional light on the variations in the per capita costs shown in the previous table. There is a remarkable similarity in the percentages of salaries to total costs. There are only two exceptional cases, San Francisco with the highest per cent of total cost devoted to salaries, 95.9 per cent, and Springfield with the lowest, 77.8 per cent. The range in the other eighteen cities is from 93.3 to 88.1, Boston occupying a middle position with 90.2 per cent. The great pressure upon pay rolls is indicated throughout

as in only two cities was as much as 11 per cent of the total cost of conducting schools spent for items other than salaries.

In eighteen of the twenty cities the cost of physical maintenance ranged from 11.9 to 6.7 per cent, and in eleven of these cities the variation is within even narrower limits, the cost ranging from 7.1 per cent in Indianapolis to 9.8 per cent in Boston.

TABLE VIII.—AMOUNT AND PERCENTAGE OF SALARIES CLASSIFIED ACCORDING TO SERVICE.

This table, with its sixteen footnotes, illustrates the difficulty which was experienced in getting school officials in the various cities to depart from their customary classification and to furnish information on a basis which makes possible comparisons of some value. Three columns in this table should be dismissed with brief comment. The column bearing the title "medical inspection and nursing" is of itself of little if any value for purposes of comparison, as in practically all of these cities such expenses are paid either in whole or in part by the Board of Health. Likewise the column entitled "all others" is of no practical value as it consists principally of blanks. The column entitled "janitors, matrons and caretakers" invites few comparisons owing to the differences in the requirements of the various cities. Five cities spend a large percentage of the total outlay on this item, namely, Lowell, 13; Fall River, 12.2; Cleveland, 11.7; Chicago, 9.8, and Cambridge, 9.1 per cent. The other fifteen cities range from 8.1 to 4.3 per cent, Boston occupying a middle position with 6.6 per cent.

The column showing the percentages of the salary cost of administration and supervision should be used with caution as it is difficult to find any two school officials who agree as to where the dividing line should be drawn between administration and supervision charges. The cause of the wide variations in the percentages must be sought in the different classifications of these charges. Otherwise one cannot account for the .6 of 1 per cent

for administration in Washington as against 7.3 per cent in Baltimore; nor for the 4.3 per cent for supervision in the former city and only .8 of 1 per cent in the latter; nor for a cost of 3 per cent for administration and supervision combined in New York as against 9.5 in Minneapolis, 8.1 in Baltimore and in Indianapolis, and 6.3 per cent in St. Louis. Moreover, the high combined charges of administration and supervision in some of these cities suggest that salaries have been charged to one or the other of these items which in other cities would have been charged to instruction. This consideration affects somewhat the value of the column entitled "Instruction."

SALARY COST OF ADMINISTRATION, SUPERVISION AND
INSTRUCTION.

The percentage of the total cost which is paid for administration ranges from 7.3 per cent in Baltimore to .6 of 1 per cent in Washington. Two cities pay more than Boston (2.7), namely, St. Louis 3.7 and Baltimore 7.3 per cent.

The cost of supervision varies from 7.8 per cent in Minneapolis to .8 of 1 per cent in Baltimore. Boston pays 1.4 per cent, the same percentage as Providence and Lynn, but less than nine of the other seventeen cities.

The cost of instruction ranges from 88.3 per cent in San Francisco to 68.1 per cent in Indianapolis. Boston occupies a middle position with 78.9 per cent, which is a smaller proportion than is paid by six and a larger proportion than is paid by thirteen of the other nineteen cities.

TABLE IX.—PERCENTAGE OF COMBINED COST OF
SALARIES FOR ADMINISTRATION, SUPERVISION AND
INSTRUCTION TO TOTAL COST OF CONDUCTING
SCHOOLS.

This table has been constructed as a check upon possible errors in comparisons due to fundamental differences in the separate classifications of the items

of administration, supervision and instruction in the preceding table. It shows that the salary cost of these three items combined ranges from 91.7 per cent in San Francisco to 70.4 per cent in Springfield, Boston again occupying a middle position with 82.9 per cent. Boston pays less than seven and more than twelve of the twenty cities.

Analyzing by groups it appears that five cities in the first group pay a higher percentage of the total cost than Boston, their rank being as follows: San Francisco, 91.7; New York, 86.3; Milwaukee, 86.3; Philadelphia, 83.7, and Chicago, 83.5 per cent. Boston, with 82.9 per cent, pays only slightly more than the other cities in this group, Washington paying 81.9, St. Louis and Baltimore 81.8 each and Cleveland 81.6 per cent. In the second group only Worcester with 83.9 and Minneapolis with 83.4 per cent spend more than Boston on these items.

TABLE X.—DISTRIBUTION OF TEACHERS' SALARIES IN REGULAR DAY SCHOOLS BY AMOUNT AND PERCENTAGE.

High Schools.—The variation in the amounts paid for salaries in the high schools is striking, the percentages of the total amount of teachers' salaries ranging from 25.5 in Springfield to 12.4 in New York. Some cities spend on salaries of high school teachers a large proportion of the total paid for all teachers' salaries. Thus in Springfield, Lynn, Providence, Cambridge, Washington, Boston, Worcester, Minneapolis and Cleveland the amount spent for salaries of teachers in day high schools ranges from about one-quarter to about one-fifth of the entire amount spent for all regular day school teachers' salaries. In the other cities the amounts are comparatively small, five spending between 15 and 20 per cent, one paying 15 per cent and five less than 15 per cent. Boston's percentage (22.8) is high, being exceeded only by Washington (22.9) in the first group of cities and by only four cities of the second group,

namely, Springfield, 25.5; Lynn, 23.9; Providence, 23.8, and Cambridge, 23.6 per cent.

Fourteen of the twenty cities pay a smaller percentage than Boston.

It need hardly be stated to those who are interested in Boston's schools that the total costs are greatly influenced by the larger proportional attendance in the high schools, as shown in previous tables, and by the large proportional expenditure for the salaries of high school teachers, as shown in this table. The tendency of these factors to raise the per capita cost is illustrated in the following table:

CITIES.		P	Total Cost per Pupil in All Schools.
Boston.....	9.92	22.8	\$34.92
Milwaukee.....	7.87	14.7	33.90
St. Louis.....	6.12	16.5	32.96
Cleveland.....	6.82	20.9	29.60
Chicago.....	5.90	14.1	29.25
Philadelphia.....	5.25	15.0	27.08
Baltimore.....	6.16	16.5	24.49

Thus it appears that the lower per capita costs of these cities, as compared with Boston, is accompanied in every instance by a lower proportional attendance in the high schools and a lower proportional payment for high school teachers' salaries.

Washington, with practically the same per capita cost (\$34.85) as Boston (\$34.92), has a smaller percentage of high school pupils (8.97) and practically the same percentage of cost for salaries of high school teachers (22.9), and therefore may be said to illustrate the same tendency. In New York and San Francisco, however, the high per capita costs, as compared with Boston,

cannot be thus accounted for, as in each of these cities the proportion of high school pupils and of high school teachers' salaries is smaller than in Boston. The considerably higher cost of instruction per pupil in both high and elementary schools in San Francisco and New York, as compared with Boston, largely accounts for the higher per capita cost of pupils in all schools in these two cities.

Elementary Schools.—The variation in the percentages paid for elementary teachers' salaries is less marked than in the case of the high schools. The percentages of salary expenditures for elementary teachers to the total salaries of teachers in all day schools range from 85.7 per cent to 68.9 per cent, the higher percentage being paid in Fall River, the lower in Washington. Boston, with 71.5 per cent, is number sixteen on the list, paying less than all other cities except Washington, Providence, Cambridge and Springfield.

Kindergartens.—The highest percentage paid by any city for kindergarten teachers' salaries is 8.2 (St. Louis) and the lowest is 1.1 (Fall River). Boston pays the same percentage as Springfield (4.6) and less than St. Louis (8.2), St. Paul (6.9), Washington (5.7), Cambridge (5.5) or Providence (with 5.2 per cent).

TABLE XI.—TOTAL AND PER CAPITA COSTS OF INSTRUCTION IN GROUPS OF DAY SCHOOLS.

This is an important table as it shows the per capita cost of instruction based on the average number of pupils belonging in the principal groups of schools. It affords a better standard of comparison than total per capita costs based either on the total population or the total number of pupils in the schools. It measures the cost of instruction per pupil by the actual number of pupils belonging in the different groups of schools and the amount of salaries paid to the teachers therein. It eliminates most of the items not common to all systems, and permits the making of comparisons which require

fewer qualifications than other standards which are frequently used. In considering the cost of instruction two principal factors, namely, the number of pupils per teacher in the different groups of schools and the size of the salaries paid to teachers in such schools, should always be taken into account; otherwise erroneous conclusions may be drawn in comparing costs in different cities.

The number of pupils per teacher is found in Table V., which has already been considered. The salary schedules of teachers cannot be presented, however, in their entirety, because of the lack of uniformity in the classification of the various teaching positions. Because of this defect in the salary schedules, Mr. Koren has advised the commission that the expense of their publication would not be warranted, but he believes it desirable to have presented in the commission's report certain parts of the salary schedules of different cities which seem to be on a fairly comparable basis. Consequently the references to salaries in the text of Mr. Koren's report, which apply to high and elementary schools and which include certain parts of the salary schedules, are printed below* for the information of those who desire to use them in checking up the per capita cost of instruction in the cities under consideration.

** Salaries in Day High Schools.*

"Close comparisons of salaries paid teachers in day high schools cannot be made throughout, partly for lack of definite data and partly for lack of uniformity in designating the various subordinate positions. In Boston principals receive a maximum of \$3,760 per annum, which is below the maximum paid in New York (\$5,000), Chicago (\$3,800), Philadelphia (\$4,500) and St. Louis (\$4,000). The minimum, however, is lower in Chicago than in Boston. Heads of departments, on the other hand, appear to be more liberally provided for in Boston than are the incumbents of positions of this grade in any of the other cities, except San Francisco (females), the maximum rate also being higher than that elsewhere paid assistant principals. Junior masters are better paid in Boston than in Philadelphia, for example, but few school systems designate any grade of teachers by this name. The general teaching staff—instructors, assistants, etc.—appears to be better paid in New York, Chicago and, as far as the minimum to female assistants is concerned, in San Francisco than in Boston. The nomenclature used in designating high school positions varies to an extent which makes further comparisons impossible."

Salaries in Day Elementary Schools.

"Special interest attaches to rates of compensation in elementary schools because of the number of teachers and others involved and the consequent large proportion of total

So far as cost is concerned it is not material whether the higher cost in a given city is due to relatively large salaries, or to a relatively large number of teachers, or to both, as the object of the present chapter is to afford

salaries paid for instruction in this group of schools. Confining attention to rates of salaries paid principals and the class room teachers, the following tables exhibit how the different cities rank."

Salaries of Principals of Elementary Schools.

CITY	MALE		FEMALE	
	Minimum.	Maximum.	Minimum.	Maximum.
New York.....	\$2,750 00	\$3,500 00	\$1,750 00	\$2,500 00
Boston.....	2,580 00	3,180 00	2,580 00	3,180 00
St. Louis.....	* 700 00	* 3,000 00	—	—
Chicago.....	* 1,800 00	* 2,800 00	—	—
Philadelphia.....	1,040 00	2,500 00	1,040 00	2,000 00
Providence.....	1,500 00	2,500 00	—	—
Worcester.....	575 00	2,500 00	500 00	1,400 00
San Francisco.....	1,320 00	2,400 00	1,320 00	2,460 00
Milwaukee.....	1,350 00	2,400 00	1,350 00	2,400 00
Minneapolis.....	* 1,050 00	* 2,300 00	—	—
Baltimore.....	1,500 00	2,000 00	2,000 00	2,000 00
Lowell.....	* 675 00	* 2,000 00	—	—
Springfield.....	* 750 00	* 2,000 00	—	—
St. Paul.....	1,050 00	1,600 00	1,050 00	1,600 00
Indianapolis.....	900 00	1,200 00	1,200 00	1,200 00
Lynn.....	1,500 00	2,000 00	1,400 00	1,400 00

* Sex not stated.

Salaries of Class Room Teachers in Elementary Schools.

CITY.	MALE.		FEMALE.	
	Minimum.	Maximum.	Minimum.	Maximum.
New York.....	\$900 00	\$2,440 00	\$600 00	\$1,440 00
Philadelphia.....	520 00	1,300 00	520 00	920 00
Chicago.....	* 650 00	* 1,225 00	—	—
San Francisco.....	960 00	1,224 00	840 00	1,224 00
St. Louis.....	—	—	600 00	1,120 00
Cleveland.....	* 650 00	* 1,050 00	—	—
Milwaukee.....	600 00	1,020 00	600 00	1,020 00
Minneapolis.....	* 800 00	* 1,000 00	—	—
St. Paul.....	450 00	950 00	450 00	900 00
Boston.....	552 00	936 00	552 00	936 00
Baltimore.....	450 00	900 00	444 00	700 00
Springfield.....	* 500 00	† 850 00	500 00	† 850 00
Worcester.....	* 500 00	* 800 00	—	—
Indianapolis.....	—	750 00	400 00	850 00
Providence.....	* 500 00	* 750 00	—	—
Lowell.....	* 650 00	* 700 00	—	—
Lynn.....	* 400 00	* 700 00	—	—
Cambridge.....	* 450 00	—	—	—

* Sex not stated.

† By unanimous consent of Board, \$900.

"According to these tabulations Boston rates second in both minimum and maximum amount of salary paid principals of elementary schools. On the other hand, with respect to salaries paid class room teachers in elementary schools, Boston is tenth in rank measured by the maximum amount, and ninth in point of minimum salary, but the order of the cities is not the same. Philadelphia and St. Paul, for instance, pay a smaller minimum than Boston, while Lowell, with a lower maximum salary, has a high minimum rate."

a comparison of Boston schools with those of other cities, and not to attempt to decide whether teachers' salaries in Boston are too high, or the number of teachers excessive. In a preceding chapter of the commission's report these questions have been dealt with.

High Schools.—Proceeding with the analysis of Table XI., it will be observed that the cost of instruction per pupil in day high schools varies widely in different cities.

The highest cost in the twenty cities is in New York (\$76.48), and the lowest is in Fall River (\$33.31). In the first group of cities the rank is as follows: New York, \$76.48; San Francisco, \$76.26; Cleveland, \$74.64; St. Louis, \$69.10; Boston, \$66.82; Washington, \$66.71; Philadelphia, \$63.08; Chicago, \$53.50; Milwaukee, \$49.62, and Baltimore, \$49.47; Boston being fifth on the list, with Washington close behind.

No city in the second group exceeds Boston in cost. The high cost in Boston and in other cities of the first group, as compared with the second group, is due to the larger salaries paid by the larger cities contained in the first group.

Elementary Schools.—The variation here is also great. The highest cost in the twenty cities is in San Francisco (\$32.67), and the lowest is in Baltimore (\$16.20). The rank in the first group of cities is as follows: San Francisco, \$32.67; Milwaukee, \$27.88; New York, \$27.02; Boston, \$24.76; St. Louis, \$22.97; Cleveland, \$21.47; Chicago, \$21.17; Washington, \$20.88; Philadelphia, \$20.09, and Baltimore, \$16.20. The cost is greater in three and less in six of these cities than it is in Boston.

All the cities in the second group pay less for instruction per pupil than Boston; and the average cost in the second group of cities is much less than that of the first group, apparently owing to the lower salaries paid in the smaller cities. It should be emphasized again that a low cost of instruction in elementary schools reduces the per capita cost in all schools, as the total cost of elementary schools is much lower than

that of the high schools, while the number of elementary pupils greatly exceeds the number of high school pupils.

Before concluding the discussion of the variances in the cost of instruction in different cities, definite warning should be given that the higher cost of instruction in one city cannot always be accounted for satisfactorily by the fact that higher salaries are paid to teachers while the number of pupils per teacher is smaller in that city than in other cities where the cost of instruction is less. The statistical tables do not show why St. Louis, with higher maximum and minimum salaries of elementary school teachers than Boston, and with a larger number of teachers relatively to pay (judged by the average number of pupils per teacher), should have a per pupil cost of instruction of \$22.97 as against \$24.76 in Boston; nor why Cleveland, with higher maximum and minimum salaries, and apparently more teachers relatively than Boston, pays only \$21.47, or \$3.29 per pupil less than Boston. So, also, Philadelphia's cost of \$20.09 per pupil, as compared with \$24.76 in Boston, is not explained by the slightly smaller relative number of teachers, as the salaries are considerably higher than in Boston. No mere statistical exhibit can explain these seeming inconsistencies. The explanation may be found in the varying percentages of teachers receiving the maximum or minimum salaries in the different cities.

TABLE XII.—NUMBER AND SALARIES OF TEACHERS IN SPECIAL DEPARTMENTS, AS COOKING, SEWING, WOODWORKING, DRAWING, MUSIC, PHYSICAL TRAINING AND OTHERS.

This table has little bearing on the cost of conducting schools, the total amounts involved being quite insignificant in comparison with the combined expense of regular day high and day elementary schools which constitutes the great burden of our school systems. It is inserted only for whatever value it may appear to have to the special student of school organizations

and expenditures and may be dismissed herein with brief comment. It shows that many cities maintain a great variety of these special departments, presumably, as in Boston, in response to popular demands. Whether the maintenance of these departments in Boston is justified by results is a question which is not attempted to be answered here, but which has been considered in another part of this report. The principal item of cost is in the salaries of teachers; and the salaries paid in Boston, taken as a whole, are not high in comparison with other cities. Thus it appears that the average salaries in Boston are exceeded in the cooking classes by ten cities, in sewing by eleven, in wood-working and sloyd by six, in music by one, in physical training by eight, and in "all others" by three cities. The costs for drawing are not given for Boston, as they are combined with woodworking, sloyd, etc. (manual training).

TABLE XIII.—AMOUNT AND PER CENT DISTRIBUTION OF THE COST OF PHYSICAL MAINTENANCE CLASSIFIED BY KINDS OF SERVICE.

This is the last of the tables under consideration. It shows the total cost of physical maintenance which includes:

- 1, light, fuel, water and power;
- 2, books;
- 3, supplies for manual training, domestic art and science;
- 4, all other supplies and incidentals.

The distribution of the cost of physical maintenance among the various items which make it up is shown to be very uneven, and no mere statistical exhibit can account satisfactorily for the variations. The reasons in most cases must be of a purely local nature. Thus, the necessity for, and the cost of, light, fuel, and power, differ widely in different cities, owing to differences in the climate, the length of the day, and the distance from the source of supplies. Moreover, in some cities

light is furnished by the city without cost to the School Department; in other cities water is furnished free; and in one city (Chicago) apparently both are supplied without charge to the schools. Again, all cities do not furnish free text-books, Milwaukee being the exceptional case; and in the quantity of free text-books furnished by the other cities, in their cost, and in the length of their use in the schools, differences exist. Marked differences exist in the quantity and quality, and therefore in the cost, of the stationery, supplies and other incidentals that are furnished. In short, it is impossible to measure these cities in respect to physical maintenance by a common standard. The table is presented, but only as a statement of facts without any attempt to prove that any city is extravagant or the reverse in furnishing the items which make up the total cost of physical maintenance.

SUMMARY.

The chief points in the foregoing analysis may be summarized as follows:

1. *Ratio of Total Enrollment to Total City Population.*

In proportion to population Boston has a larger number of pupils enrolled in all schools than any city of the first group and larger than all, except two cities in the second group. Likewise, in day schools and night schools, taken separately, Boston leads all cities in the first group and all but two cities in the second group.

2. *Ratio of Average Number of Pupils Belonging to Total City Population.*

In proportion to population the average number of pupils belonging in day high schools in Boston is greater than that of any city in the first group, and is only exceeded by three in the second group. In day elementary schools only two cities, one city in each

group, have a larger ratio of pupils than Boston. In ratio of evening high school pupils Boston surpasses all cities in both groups, except Lowell, whose ratio is the same as that of Boston. In ratio of evening elementary school pupils Boston also excels all cities in the first group; and it leads all except two cities in the second group.

3. *Percentage of Pupils Belonging in the Two Principal Groups of Day Schools, High and Elementary.*

The number of pupils belonging in the day high schools of Boston, in proportion to the total number belonging in all its day schools, is relatively greater than that of any city in the first group. The percentage of high school pupils in Boston is 9.92; in two other cities of this group it is between 7 and 9 per cent, in four it is between 6 and 7 per cent, in two others it is between 5 and 6 per cent, and in one it is less than 5 per cent. Seven cities in the second group have a higher percentage of high school pupils than Boston, but only two of them, Minneapolis (12.78) and Springfield (11.29), have a materially higher percentage than Boston, the other five cities having between 9.94 and 10.35 per cent.

Boston, however, has in its elementary schools a smaller percentage of pupils than most cities, seven cities in the first group and nine in the second group showing a larger percentage.

4. *Cost of Instruction per Pupil in Day Schools, High and Elementary.*

The cost in Boston high schools is \$66.82 per pupil, which is less than that of four cities in the first group, namely, New York, \$76.48, San Francisco, \$76.26, Cleveland, \$74.64, and St. Louis, \$69.10. The cost in Washington and Philadelphia, \$66.71 and \$63.08, respectively, is not much less than in Boston. Three other cities in this group that show low costs are Chicago,

\$53.50, Milwaukee, \$49.62, and Baltimore, \$49.47. Boston, on the whole, compares very favorably with the cities in this group. The cost in the cities of the second group is lower than in Boston and lower generally than in the cities of the first group. This is due principally to the lower salaries paid in the smaller cities contained in the second group.

The cost of instruction per pupil in the elementary schools also averages higher in the cities of the first group than in those of the second group owing chiefly to the larger salaries paid in the first group. Boston occupies a fair position in the first group of cities, the cost being \$24.76 per pupil, as compared with \$32.67 in San Francisco, \$27.88 in Milwaukee and \$27.02 in New York. St. Louis ranks next to Boston with a cost of \$22.97, while in the other cities in this group the cost ranges from \$21.47 in Cleveland to \$16.20 in Baltimore. How much the diversity in costs is due to variations in the percentage of teachers receiving the minimum or the maximum salaries is a question which the available statistics do not answer.

5. *Per Capita Cost of Conducting Schools, Based on the Average Number of Pupils Belonging.*

The cost per pupil of \$34.92 in Boston is exceeded by that of two cities in the first group, namely, \$38.75 in San Francisco, and \$36.87 in New York. In Washington (\$34.85) the cost is practically the same as in Boston. Milwaukee (\$33.90) and St. Louis (\$32.96) follow Washington closely. Springfield (\$37.87) is the only city in the second group with a cost exceeding that of Boston.

The probability of error in drawing conclusions from statements of per capita costs has already been discussed fully in the introduction to Part IV. and in the analysis of Table No. VI. The danger of reliance upon one important factor which contributes largely

to make up the total per capita cost, namely, the relative number of teachers receiving maximum or minimum salaries, has also been mentioned in the analysis of Table XI., which deals with the cost of instruction per pupil.

The principal reasons for the high per capita cost in Boston, as compared with some of the other cities, seem to the Finance Commission to be the following:—

The fact that Boston has in its high schools a larger percentage of the total number of pupils than any city in the first group, and has in its elementary schools a smaller percentage of the total number of pupils than any city in the first group except two, and a smaller percentage of kindergarten pupils than these two cities, seems to account for the excess of Boston's total per capita cost of pupils in all schools wherever it appears to exceed that of other cities in this group. The larger percentage of high school pupils in Boston and the smaller percentage of elementary school pupils necessitates relatively larger expenditures for high schools (the more costly grade) and relatively smaller expenditures for elementary schools (a less costly grade). This is shown by the fact that Boston's percentage of high school salaries to total salaries in all day schools (22.8) is higher than that of any city except Washington (22.9) in the first group, and that Boston's percentage of elementary school salaries (71.5) is lower than that of any city in the first group, except Washington, where it is 68.9 per cent. Boston, all things considered, compares favorably as to per capita cost with any city in this group.

In the smaller, and therefore less comparable, cities contained in the second group, the cause of the low per capita costs, as compared with Boston's, is found either in their lower percentages of high school pupils, accompanied by higher percentages of elementary pupils, or in the lower salary allowances to teachers; or in both. It appears that only two of the ten cities

in this group have a materially greater percentage of high school pupils than Boston; that five have practically the same percentage as Boston; and that the other three have a smaller percentage. On the other hand, in the elementary schools, which are less expensive to maintain than high schools, Boston shows a smaller percentage of pupils than any city in this group, except Springfield and St. Paul. Moreover, the salaries paid in the smaller cities are generally lower than those paid in Boston. The relatively high per capita cost in Boston can certainly not be charged to extravagant salary allowances to its elementary school teachers in the year under consideration (1909) (although these salaries amounted to about 70 per cent of the total cost of salaries in all day schools), as these salaries were then almost universally regarded as too low and provision for their increase has since been made.

To summarize, in the opinion of the Finance Commission, nothing in the exhibit of per capita costs in either group of cities justifies the assumption that the Boston schools, as compared with such cities, are extravagantly administered.

6. *Cost of Salaries and Physical Maintenance and Their Percentage of the Total Cost of Conducting Schools.*

1. *Salaries.*—With respect to the total payments of salaries, including teachers, officers and all other employees, Boston occupies a middle position, all salaries combined being 90.2 per cent of the total cost of conducting schools, and the salary expenditures in eighteen of the twenty cities ranging from 88.1 to 93.3 per cent. The two exceptional cities are San Francisco and Springfield, which spend for salaries 95.9 and 77.8 per cent, respectively, of the total cost of conducting schools.

The following table shows the lowest and the highest percentages of the total cost expended for school salaries in the twenty cities, as compared with Boston's percentage of expenditure for the same purpose.

Twenty Cities.

	Lowest Per Cent of Total Cost.	Highest Per Cent of Total Cost.	Boston's Per Cent of Total Cost.
Administration.....	.6	7.8	2.7
Supervision.....	.8	7.8	1.4
Instruction.....	68.1	88.3	78.9
Administration, supervision and in- struction combined.....	70.4	91.7	82.9
Medical inspection and nursing.....	.1	.7	.7
Janitors, matrons and caretakers....	4.3	13.	6.6
All salaries.....	77.8	95.9	90.2

Thus, it appears that for only one item, the comparatively insignificant one of salaries for "medical inspection and nursing," does Boston pay the highest percentage of the total cost of conducting schools. In regard to all other items Boston occupies middle ground, its position being neither the highest nor the lowest in the expenditure for these various items, as compared with the other cities. There seems to be no justification in this exhibit for assuming that the salaries paid in Boston are excessive.

2. *Physical Maintenance.*—No satisfactory analysis of the widely different costs in the various cities is possible on account of the wide divergence with respect to climate, elements of population, the development of public interest in the schools, and the demand for, and the supply and cost of, the different items which make up the entire cost of physical maintenance. A mere statistical exhibit of the facts can do no more than show the percentage of the total cost of conducting schools which the twenty cities spend for physical maintenance, and the items included therein. Springfield leads the list with an expenditure of 22.2 per cent for physical maintenance, but this is an exceptional case. The range in the other nineteen cities is from 4.1 to 11.9 per cent. Boston's percentage (9.8) is equalled by one, is higher than twelve, and is lower than six cities. Nothing in these figures indicates extravagance in the Boston schools, as compared with other cities, in respect to the cost of physical maintenance.

Table I.

Number and Ratio of all Pupils Enrolled, Classified by Groups of Schools for Twenty Cities.

CITY.	Estimated General Population.	TOTAL NUMBER ENROLLED IN							
		ALL PUBLIC SCHOOLS.		DAY SCHOOLS.		NIGHT SCHOOLS.		SPECIAL DAY SCHOOLS. ⁴	
		Number.	Number per 100,000 of Population.	Number.	Number per 100,000 of Population.	Number.	Number per 100,000 of Population.	Number.	Number per 100,000 of Population.
Boston.....	655,905	133,130	20,297	111,556	17,009	21,409	3,284	155	24
New York.....	4,564,792	850,628	18,634	730,058	15,993	120,290	2,635	280	6
Chicago.....	2,214,490	317,881	14,354	292,216	13,195	21,454	969	4,211	190
Philadelphia.....	1,515,800	174,563	11,516	156,435	10,980	7,268	479	860	57
St. Louis.....	680,186	93,837	13,796	187,170	12,816	6,667	980	1	1
Cleveland.....	560,186	77,786	13,874	69,952	12,478	6,922	1,234	912	162
Baltimore.....	555,669	89,387	16,086	80,326	14,456	9,024	1,624	37	6
Milwaukee †.....	373,857	53,476	14,303	48,636	13,009	4,697	1,256	143	38
San Francisco.....	355,000	48,509	13,664	43,164	12,159	3,345	1,505	1	1
Washington *.....	320,599	57,039	17,791	53,385	16,651	3,654	1,139	1	1
Minneapolis.....	293,521	47,298	16,114	45,642	15,550	1,656	564	—	—
Indianapolis.....	227,301	32,099	14,128	31,667	13,938	432	190	1	1
Providence †.....	224,326	39,386	17,556	33,791	15,062	5,105	2,276	490	218
St. Paul †.....	214,744	28,520	13,239	1	1	1	1	1	1
Worcester.....	146,417	25,425	17,365	22,645	15,466	2,780	1,899	—	—
Fall River.....	115,097	19,778	17,184	16,768	14,569	2,905	2,524	105	91
Lowell.....	104,013	17,326	16,658	13,424	12,907	3,902	3,751	—	—
Cambridge.....	99,274	20,211	20,358	17,431	17,558	2,780	2,800	—	—
Lynn.....	85,000	13,134	15,451	11,222	13,202	1,912	2,249	—	—
Springfield.....	84,938	17,775	20,927	14,968	17,622	2,907	3,305	—	—

* For year 1906.

† For year 1910; census figures.

‡ Day schools and special schools are combined.

§ Summer schools not included.

|| Not separable. Evening schools only in part under city.

¶ Data as to special schools is of little value owing to the variety of classifications.

Table 11.

Compulsory School Age, Minimum Age of Admission, Length of School Year and Number of Elementary Grades in Twenty Cities.

CITY.	Compulsory School Age.	MINIMUM AGE OF ADMISSION TO		LENGTH OF SCHOOL YEAR.		Number of Elementary Grades.
		Kindergarten.	Elementary.	DAY SCHOOLS. Number of Days.	EVENING SCHOOLS. Number of Evenings.	
Boston.....	7-14	3½	5	187	—	1-8
New York.....	8-16	5	6	191	{ High 120 Elem. 90 }	1-8
Chicago.....	7-14	4	6	192 to 200	—	1-8
Philadelphia.....	8-16	4	6	200	{ Elem. 62 Trade 138 }	1-8
St. Louis ..	8-14	6	7	195	190	1-8
Cleveland	8-14	5	6	{ Elem. 190 High 200 }	—	1-8
Baltimore.....	8-12	6	Over 6	190	—	1-8
Millwaukee.....	7-14	4	7	197	—	1-8
San Francisco.....	6-14	4	6	202	202	1-8
Washington.....	8-14	5	6	177	80	1-8
Minneapolis.....	8-18	5	6	182	51	1-8
Indianapolis	7-14	—	6	182	—	—
Providence.....	7-15	4½	6	186½	{ 100 (Technical 80) }	1-8
St. Paul.....	8-16	5	6	190	—	—
Worcester.....	7-14	5	6	191	110	1-9
Fall River.....	7-14	3½	5	193	43	1-9
Lowell.....	7-14	3½	5	183	•	1-9
Cambridge.....	7-14	3½	5	189	—	1-9
Lynn.....	7-14	—	5	183	71	1-9
Springfield.....	7-14	4	5	180½	{ High 67 Elem. 90 }	1-9

¹ Unless too few apply.

² In the borough of Brooklyn only 190 days.

³ One school in session but sixty nights.

⁴ Includes holidays and vacations.

⁵ Varies in different schools.

⁶ Two special evening schools had twenty evenings; one had forty.

Table III.A.
Average Number and Ratio of Pupils Belonging in Day Schools, Classified by Groups of Schools for Twenty Cities.

CITY.	NORMAL.		HIGH.		ELEMENTARY.		KINDERGARTENS.		SPECIAL.	
	AVERAGE OF PUPILS BELONGING.		AVERAGE OF PUPILS BELONGING.		AVERAGE OF PUPILS BELONGING.		AVERAGE OF PUPILS BELONGING.		AVERAGE OF PUPILS BELONGING.	
	Number.	Number per 100,000 of Population.	Number.	Number per 100,000 of Population.	Number.	Number per 100,000 of Population.	Number.	Number per 100,000 of Population.	Number.	Number per 100,000 of Population.
Boston.....	211	32	9,725	1,483	82,408	12,564	6,671	849	163	23
New York.....	1,993	44	30,762	674	1,552,999	112,772	23,569	516	1104	12
Chicago.....	553	26	14,685	663	221,975	10,024	10,768	496	835	38
Philadelphia.....	491	32	9,206	607	115,302	10,245	7,574	499	2,745	180
St. Louis.....	145	21	4,436	652	60,230	8,555	7,109	1,045	532	79
Cleveland.....	216	39	4,787	854	59,285	10,574	4,935	880	912	163
Baltimore.....	227	40	3,814	686	56,976	10,253	826	148	35	6
Milwaukee.....	—	—	3,185	852	32,968	8,818	4,098	1,096	693	185
San Francisco.....	—	—	2,459	692	32,676	9,204	51	14	79	22
Washington.....	222	69	4,135	1,290	39,751	12,399	1,859	580	121	38
Minneapolis.....	—	—	5,086	1,738	134,705	111,924	—	—	—	—
Indianapolis.....	—	—	2,827	1,244	24,501	10,784	—	—	64	28
Providence.....	—	—	2,584	1,143	28,762	10,592	1,490	660	296	127
St. Paul.....	54	25	2,273	1,058	20,061	9,242	2,500	1,164	30	14
Worcester.....	—	—	2,066	1,411	17,131	11,700	760*	519	—	—
Fall River.....	208	269	786	683	13,002	11,297	133	116	—	—
Lowell.....	—	—	1,141	1,097	9,900	9,519	435	418	—	—
Cambridge.....	—	—	1,590	1,602	13,110	13,206	765	771	—	—
Lynn.....	—	—	1,072	1,261	9,318*	10,959	—	—	—	—
Springfield.....	—	—	1,437	1,692	10,806	12,487	603	780	—	—

* Truant included with elementary.

* Kindergarten and elementary* are combined

Table III.B.

Average Number and Ratio of Pupils Belonging in Evening Schools Classified by Groups of Schools for Twenty Cities.

CITY.	HIGH.		ELEMENTARY.		SPECIAL.	
	AVERAGE OF PUPILS BELONGING.		AVERAGE OF PUPILS BELONGING.		AVERAGE OF PUPILS BELONGING.	
	Number.	Number per 100,000 of Population.	Number.	Number per 100,000 of Population.	Number.	Number per 100,000 of Population.
Boston.....	4,169	636	7,209	1,099	708	107
New York.....	13,581	298	44,586	977	—	—
Chicago.....	5,271	238	16,183	731	830	87
Philadelphia.....	3,914	258	6,461	444	598	39
St. Louis.....	1,111	163	2,604	383	—	—
Cleveland.....	1,891	337	5,031	898	—	—
Baltimore.....	1,017	114	1,793	323	491	88
Milwaukee.....	—	—	—	—	—	—
San Francisco.....	425	120	2,342	660	686	193
Washington.....	203	63	1,843	575	101	32
Minneapolis.....	—	—	1,656	564	—	—
Indianapolis.....	—	—	210	92	—	—
Providence.....	737	329	1,754	782	800	143
St. Paul.....	169	79	386	179	59	27
Worcester.....	617	421	968	661	531	363
Fall River.....	300	261	1,500	1,303	—	—
Lowell.....	663	636	1,629	1,566	258	249
Cambridge.....	1	—	12,525	2,543	255	257
Lynn.....	190	223	783	921	165	194
Springfield.....	381	449	753	907	600	449

¹ High and elementary are combined.

² Total enrollment.

Table IV.

Per Cent Distribution of Pupils in Day Schools Classified by Groups of Schools for Twenty Cities.

CITY.	Total Average Number of Pupils Belonging.	PER CENT OF PUPILS IN				
		Normal Schools.	High Schools.	Elementary Schools.	Kinder- gartens.	Special Schools.
Boston.....	98,068	0.21	9.92	84.03	5.68	0.16
New York.....	639,427	31	4.81*	191.17	3.69	1.02
Chicago....	248,816	.22	5.90	89.21	4.33	.34
Philadelphia.....	175,318	.28	5.25	88.59	4.32	1.56
St. Louis.....	72,452	20	6.12	83.13	9.81	.74
Cleveland ..	70,135	.31	6.82	84.53	7.04	1.30
Baltimore....	61,878	.37	6.16	92.08	1.33	.06
Milwaukee ..	40,452	—	7.87	81.50	10.13	1.71
San Francisco ..	35,265	—	6.97	92.65	.15	.23
Washington ..	46,088	48	8.97	86.25	4.04	.26
Minneapolis....	39,791	—	12.78	87.22	"	—
Indianapolis. .	27,392	—	10.32	89.45	—	.23
Providence....	28,092	—	9.18	84.58	5.27	1.02
St. Paul.....	24,888	22	9.12	80.61	10.03	.12
Worcester.....	19,957	—	10.35	85.84	3.81	—
Fall River ..	14,297	2.08	5.50	90.94	.93	—
Lowell.. ..	11,476	—	9.94	86.27	3.79	—
Cambridge.. ..	15,465	—	10.28	84.77	4.95	—
Lynn	10,387	—	10.32	89.68	—	—
Springfield.....	12,706	—	11.29	83.49	5.22	—

* Truant included with elementary.

* Kindergarten included with elementary.

Table V.
Number of Teachers and Average Number of Pupils per Teacher in Day Schools Classified by Groups of Schools for Twenty Cities.

CITY.	NORMAL.			HIGH.			ELEMENTARY.			KINDERGARTENS.		
	Number of Teachers.	AVERAGE NUMBER OF PUPILS PER TEACHER.		Number of Teachers.	AVERAGE NUMBER OF PUPILS PER TEACHER.		Number of Teachers.	AVERAGE NUMBER OF PUPILS PER TEACHER.		Number of Teachers.	AVERAGE NUMBER OF PUPILS PER TEACHER.	
		Based on Average Number of Pupils Belonging.	Based on Average Daily Attendance.		Based on Average Number of Pupils Belonging.	Based on Average Daily Attendance.		Based on Average Number of Pupils Belonging.	Based on Average Daily Attendance.		Based on Average Number of Pupils Belonging.	Based on Average Daily Attendance.
Boston.....	16	13	13	338	29	27	1,895	43	40	216	26	20
New York ..	90	22.1	21.8	1,180	26.1	23.3	113,614	142.8	138.7	743	31.7	25.5
Chicago.....	43	17.3	16.3	549	25.9	24.6	4,940	44.8	42.4	—	44.7	39.5
Philadelphia....	—	15	14	—	23	22	—	44	39	—	35	27
St. Louis.....	11	13.2	12.9	220	20.2	19.4	1,447	41.6	38.8	256	27.8	24.6
Cleveland.....	8.5	25.4	22.4	241.6	19.8	17	1,400.7	42.3	36.5	90	54.8	21.3
Baltimore.....	8	28.3	27.7	168	22.6	21.4	1,514	37.5	33.8	43	19.2	15.6
Milwaukee ..	—	—	—	130	26	23	900	42	40	111	37	32
San Francisco...	—	—	—	—	28+	27+	—	38+	37+	2	25.5	21
Washington.....	14	18.5	18.1	235	18	16.5	1,081	36.8	34.4	114	16.2	14.4
Minneapolis ..	—	—	—	196	25.9	25.1	1,846	41	39.3	1	1	1
Indianapolis....	—	—	—	122	23.1	22.2	628	39	36.8	—	—	—
Providence.....	—	—	—	121	21.1	19.9	592	40.1	36.6	57	25.9	21.3
St. Paul.....	13	4.2	4.0	108	21.4	20.7	557	36	36	62	40.3	29
Worcester.....	—	—	—	92	22.5	21.6	500	34.8	31.2	34	22.3	18.5
Fall River.....	7	42.5	38.8	28	28	27.1	392	33	30.5	5	22.1	17.3
Lowell	—	—	—	34	23.6	32	269	36.8	33.8	23	18.9	15
Cambridge.....	—	—	—	71	22.4	21.3	346	37.9	35.5	30	25.5	20.7
Lynn.....	—	—	—	43	24.9	23.7	261	35.6	33.3	—	—	—
Springfield.....	—	—	—	76	18.8	18	318	38.6	31.3	30	44.2	35.6

* Includes truant schools.

* Kindergartens included with elementary.

Table VI.

Total and Per Capita Cost of Conducting Public Schools.

CITY.	COST OF CONDUCTING PUBLIC SCHOOLS.		
	Total of Salaries and Physical Maintenance.	Average Number of Pupils Belonging in Day and Evening Schools.	Per Capita of Average Number of Pupils Belonging in all Schools.
Boston.....	\$3,846,269 23	110,148	\$34 92
New York.....	25,718,714 96	697,594	36 87
Chicago.....	7,929,640 91	271,100	29 24
Philadelphia.....	5,045,010 86	180,201	27 06
St. Louis.....	2,510,241 72	76,167	32 96
Cleveland.....	2,281,092 25	77,067	29 00
Baltimore.....	1,596,344 67	65,179	24 49
Milwaukee.....	1,370,168 00	40,408	33 90
San Francisco.....	1,600,584 00	38,718	38 75
Washington.....	1,681,901 49	48,235	34 85
Minneapolis.....	1,352,170 88	41,447	32 62
Indianapolis.....	946,875 00	37,401	25 31
Providence.....	890,262 72	30,908	28 81
St. Paul.....	785,049 13	25,502	30 79
Worcester.....	653,157 20	22,073	29 59
Fall River.....	381,490 64	16,097	23 69
Lowell.....	361,306 47	14,025	25 70
Cambridge.....	493,507 27	18,245	27 06
Lynn.....	302,505 49	11,525	26 26
Springfield.....	538,390 02	14,231	37 87

¹ Light furnished by the city.² Salaries of janitors and cost of light, fuel, water and power are not paid by school department.

Table VII.

Cost of Conducting Public Schools, Classified by Amount Expended for Salaries and for Physical Maintenance for Twenty Cities.

CITY.	COST OF CONDUCTING PUBLIC SCHOOLS.				
	Total of Salaries and Physical Maintenance.	EXPENDED FOR			
		Salaries.		Physical Maintenance.	
		Total.	Per Cent.	Total.	Per Cent.
Boston.....	22,546,280 23	\$2,469,831 68	90.2	\$276,487 55	9.8
New York.....	25,718,714 96	23,615,422 68	91.8	2,103,292 28	8.2
Chicago.....	7,929,640 91	7,395,795 14	93.3	533,845 77	6.7
Philadelphia.....	5,045,010 36	4,609,686 52	91.4	435,323 84	8.6
St. Louis.....	2,510,241 72	2,246,547 05	89.5	263,694 67	10.5
Cleveland.....	2,281,092 25	2,129,342 18	93.3	151,750 07	6.7
Baltimore.....	1,596,344 67	1,422,986 35	89.1	173,358 32	10.9
Milwaukee.....	1,370,168 00	1,265,541 00	91.4	104,627 00	7.6
San Francisco.....	1,500,584 00	1,439,212 00	95.9	61,372 00	4.1
Washington.....	1,681,901 49	1,481,960 24	88.1	199,941 15	11.9
Minneapolis.....	1,362,170 88	1,221,142 77	90.3	131,028 11	9.7
Indianapolis.....	946,875 00	880,086 13	93.9	66,788 87	7.1
Providence.....	890,262 72	796,523 50	89.5	93,739 22	10.5
St. Paul.....	785,049 18	714,166 77	91.0	70,882 36	9.0
Worcester.....	653,157 30	596,531 59	91.3	56,625 61	8.7
Fall River.....	381,490 64	346,733 96	90.9	34,756 68	9.1
Lowell.....	361,306 47	329,628 63	91.2	31,677 85	8.8
Cambridge.....	493,507 27	444,971 46	90.2	48,535 81	9.8
Lynn.....	275,800 44	269,772 52	89.3	32,782 97	10.8
Springfield.....	538,390 03	475,003 02	77.8	119,528 00	22.2

Table VIII.

Amount of Salaries and Its Percentage of Total Cost of Conducting Schools, Classified by Service for which Paid, for Twenty Cities.

CITY.	AMOUNT OF SALARIES PAID FOR			
	Admini- stration. ¹	Super- vision. ²	Instruction. ³	Medical Inspection and Nursing.
Boston.....	\$101,677 23	\$54,395 31	\$3,032,342 45	\$25,435 60 ⁴
New York.....	489,541 90 ⁵	289,009 95 ⁶	21,413,353 17	3,399 84 ⁷
Chicago.....	136,618 31	81,036 80	6,401,621 60	"
Philadelphia.....	71,750 00	127,665 25	4,022,155 05	4,650 00 ⁸
St. Louis.....	92,656 30	66,147 65	1,895,962 10 ⁹	2,500 00 ¹¹
Cleveland.....	"	64,869 76 ¹⁰	1,797,848 12	—
Baltimore.....	117,380 00	12,867 89	1,175,650 76	"
Milwaukee.....	18,750 00	31,325 00	1,132,840 00	7,400 00
San Francisco.....	33,330 00	17,080 00	1,324,741 00	"
Washington.....	9,561 22	72,612 00	1,294,703 00	1,200 00
Minneapolis.....	33,181 25	105,000 00	999,662 99	"
Indianapolis.....	16,382 75	60,670 50	644,821 75	"
Providence.....	23,561 78	12,875 82	682,669 94	"
St. Paul.....	13,815 00	14,700 00	582,811 77	3,750 00
Worcester.....	9,151 67 ¹²	6,125 00	532,532 50	"
Fall River.....	"	10,185 65 ¹³	290,000 00	"
Lowell.....	4,340 07	4,100 00	273,093 69	1,680 00
Cambridge.....	9,106 62	4,850 00	386,067 89	"
Lynn.....	4,864 52	4,124 01	234,999 74	"
Springfield.....	4,196 50 ¹⁴	5,900 00 ¹⁵	389,443 00	"

¹ Includes clerical and truant department salaries.

² Includes clerical salaries.

³ Includes librarians and clerical salaries.

⁴ School nurses and medical inspector; the remaining medical inspectors under the Board of Health.

⁵ Administration also includes the administrative cost of the school building and repair (etc.) department, and all clerical of all departments, except instruction.

⁶ Exclusive of clerical and including a board of examiners.

⁷ Salaries of two "Examiners" (medical) for the teachers, "School Doctors" under the Board of Health.

⁸ Paid for by Board of Health.

Table VIII.

Amount of Salaries and Its Percentage of Total Cost of Conducting Schools, Classified by Service for which Paid, for Twenty Cities.

AMOUNT OF SALARIES PAID FOR		PERCENTAGE OF TOTAL COST OF CONDUCTING SCHOOLS PAID FOR					
Janitors, Matrons and Caretakers.	All Others.	Adminis- tration.	Super- vision.	Instruc- tion.	Medical Inspec- tion and Nursing.	Janitors, Matrons and Care- takers.	All Others.
\$255,981 09	—	2.7	1.4	78.9	0.7	■	—
1,420,117 82	—	1.9	1.1	83.3	1 ¹⁰	5.5	—
776,518 43	—	1.7	1.0	80.7	—	9.8	—
382,465 62	\$1,000 00	1.4	2.5	79.7	0.1	7.6	1 ¹¹
189,281 00	—	3.7	2.6	75.5	0.1	7.5	—
266,624 30	—	"	2.8 ¹²	78.8	—	11.7	—
117,087 70	—	7.3	0.8	73.6	—	7.3	—
74,536 00	680 00	1.4	2.3	82.6	0.5	5.4	0.01
64,061 00	—	2.2	1.1	88.3	—	4.3	—
96,661 29	2,569 47	0.6	4.3	76.9	0.3	5.3	0.2
93,298 53	—	1.7	7.8	71.9	—	6.9	—
61,317 00	96,894 13	1.7	6.4	68.1	—	6.5	10.2
71,570 98	5,844 98	2.6	1.4	76.7	—	8.0	0.7
54,679 14	44,410 86	1.7	1.9	74.2	0.5	7.0	5.6
48,721 42	—	1.4 ¹³	0.9	81.5	—	7.5	—
44,972 71	—	1 ¹⁰	2.7 ¹⁴	76.0	—	11.3	—
46,914 86	—	1.3	1.1	75.5	0.5	11.0	—
44,843 01	—	1.8	1.0	78.4	—	9.1	—
24,584 25	1,200 00	1.6	1.4	77.7	—	8.1	0.4
39,422 52 ¹⁴	—	0.8 ¹⁵	1.1 ¹⁵	68.6	—	7.3	—

⁹ School nursing only.

¹⁰ There is an overlapping between the cost of instruction and supervision.

¹¹ Salary of one "Medical Adviser."

¹² No department.

¹³ Slight overlapping between administration and supervision. In Worcester this is clerical, that is, clerical supervision is with administrative clerical.

¹⁴ Matron in bath rooms only paid by school departments. Janitors under another department.

¹⁵ Less than .02 per cent.

¹⁶ Administration and supervision combined.

Table IX.

Percentage of Cost of Administration, Supervision and Instruction Combined, to Total Cost of Conducting Schools.

CITY.	Total of Salaries and Physical Maintenance.	Total Cost of Administration, Supervision and Instruction.	Per Cent of Cost of Administration Supervision and Instruction to Total Cost of Salaries and Physical Maintenance.
Boston.....	\$3,846,269 23	\$3,138,414 99	82.9
New York.....	25,718,714 96	22,191,905 02	86.3
Chicago.....	7,929,640 91	6,619,276 71	83.5
Philadelphia.....	5,045,010 36	4,221,570 90	83.7
St. Louis.....	2,510,241 72	2,054,766 05	81.8
Cleveland.....	2,281,092 25	1,862,717 88	81.6
Baltimore.....	1,596,344 67	1,305,898 65	81.8
Milwaukee.....	1,370,168 00	1,182,925 00	86.3
San Francisco.....	1,500,584 00	1,375,151 00	91.7
Washington.....	1,681,901 49	1,376,876 22	81.9
Minneapolis.....	1,352,170 88	1,127,844 24	83.4
Indianapolis.....	946,875 00	721,875 00	76.2
Providence.....	890,262 72	719,107 54	80.8
St. Paul.....	785,049 13	611,326 77	77.8
Worcester.....	653,157 20	547,810 17	83.9
Fall River.....	381,409 64	300,044 45	78.7
Lowell.....	361,306 47	281,533 76	77.8
Cambridge.....	493,507 27	400,024 51	81.1
Lynn.....	302,505 49	243,958 27	80.6
Springfield.....	538,390 02	379,439 50	70.4

TABLE X.

Table X.

Amount and Per Cent Distribution of Teachers' Salaries in Regular Day Schools Classified by Groups of Schools for Twenty Cities.

CITY.	Total Salaries Expended for Regular Day Schools. ¹	SALARIES EXPENDED FOR	
		NORMAL.	
		Amount.	Per Cent.
Boston.....	\$2,852,597 09	\$31,584 84	1.1
New York.....	19,001,575 00	283,760 00	1.5
Chicago.....	5,570,819 10	84,983 98	1.5
Philadelphia.....	3,884,145 48	51,117 11	1.3
St. Louis.....	1,864,239 00	20,977 11	1.1
Cleveland.....	1,709,693 04	15,436 86	0.9
Baltimore.....	1,142,152 44	12,246 87	1.1
Milwaukee.....	1,077,287 00	—	—
San Francisco.....	1,255,192 00	—	—
Washington.....	1,204,449 25	\$29,753 84	2.5
Minneapolis.....	964,395 73	—	—
Indianapolis.....	704,491 69	—	—
Providence.....	637,105 57	—	—
St. Paul.....	594,156 27	14,151 08	2.4
Worcester.....	472,295 00	—	—
Fall River.....	277,066 05	—	—
Lowell.....	235,664 96	—	—
Cambridge.....	359,429 19	—	—
Lynn.....	228,745 74	—	—
Springfield.....	354,638 00	—	—

¹ In some instances salaries of clerical assistants to teachers are included.

² The figures for the normal schools include 20 practice schools, with \$14,100 expenditure.

Table X.

Amount and Per Cent Distribution of Teachers' Salaries in Regular Day Schools Classified by Groups of Schools for Twenty Cities.

SALARIES EXPENDED FOR					
HIGH.		ELEMENTARY.		KINDERGARTEN.	
Amount.	Per Cent.	Amount.	Per Cent.	Amount.	Per Cent.
\$649,845 67	22.3	\$2,040,640 98	71.5	\$180,525 80	4.6
2,352,550 00	12.4	15,756,705 00	82.9	606,480 00	3.2
785,552 50	14.1	* 4,700,182 62	84.4	"	—
580,727 37	15.0	3,120,613 05	81.3	131,745 48	3.4
306,524 80	16.5	* 1,383,353 30	74.2	153,351 55	8.2
357,299 86	20.9	1,273,144 36	74.5	68,811 96	3.7
183,687 57	16.5	887,734 11	80.8	18,504 00	1.6
158,027 00	14.7	* 919,260 00	85.3	"	—
187,528 00	14.9	1,067,664 00	88.1	—	—
275,849 75	22.9	830,094 65	68.9	68,751 51	5.7
208,023 00	21.6	748,512 00	77.6	7,800 73	.7
136,815 11	19.4	567,855 10	80.6	—	—
151,362 50	23.8	452,403 63	71.0	33,339 44	5.2
110,136 77	18.5	428,780 26	72.2	41,098 16	6.9
104,111 11	22.0	347,945 00	73.7	20,300 00	4.3
* 36,108 00	11.0	237,387 66	85.7	3,569 79	1.1
28,015 51	16.1	185,736 69	78.8	11,912 76	4.7
84,772 40	23.6	254,720 26	70.9	19,915 43	5.6
21,691 74	23.9	174,054 00	76.1	—	—
90,586 00	25.5	247,843 00	81.9	16,209 00	4.6

* All elementary special schools are included.

* Kindergarten included with elementary.

* Includes salaries of eight Normal School teachers.

Table XI.

Total and Per Capita Cost of Instruction in Day High Schools and Day Elementary Schools.

CITY.	HIGH SCHOOLS.		ELEMENTARY SCHOOLS.			
	Average of Pupils Belonging.	Total Salaries of Teachers.	Per Capita Cost of Instruction Based on Average of Pupils Belonging.	Average of Pupils Belonging.	Total Salaries of Teachers.	Per Capita Cost of Instruction Based on Average of Pupils Belonging.
Boston ¹	9,725	\$110,545 07	\$66 82	82,408	\$3,040,640 98	\$24 76
New York.....	30,762	2,352,650 00	76 48	582,999	15,756,705 00	27 02
Chicago.....	14,685	770,852 21	58 50	221,975	4,700,182 62	21 17
Philadelphia ¹	9,206	580,727 37	63 08	155,302	3,120,613 05	20 09
St. Louis.....	4,426	\$68,224 50	59 10	80,224	1,383,853 30	22 97
Cleveland.....	4,787	\$17,000 00	74 64	10,222	1,273,144 86	21 47
Baltimore.....	3,314	188,667 57	49 47	56,976	922,734 00	16 20
Milwaukee.....	3,185	158,027 00	49 00	32,968	919,260 00	27 88
San Francisco ¹	2,459	187,528 00	76 26	32,676	1,067,664 00	32 67
Washington ¹	4,135	275,849 75	51 51	39,751	\$3,117 65	20 88
Minneapolis.....	5,085	208,023 00	40 90	34,706	748,512 00	21 57
Indianapolis.....	2,827	136,836 59	48 40	24,501	567,655 10	23 17
Providence.....	2,564	151,362 50	59 03	23,762	452,408 63	19 04
St. Paul.....	2,273	110,136 77	48 45	20,061	428,780 26	21 37
Worcester.....	2,066	104,050 00	50 36	17,121	347,946 00	20 31
Fall River ¹	1,084	36,108 60	33 31	13,002	237,327 66	18 26
Lowell.....	1,141	38,016 51	33 32	9,900	185,736 69	18 76
Cambridge.....	1,590	84,793 50	53 32	13,110	254,720 26	19 43
Lynn.....	1,072	54,691 74	51 02	9,315	174,054 00	18 69
Springfield ¹	1,437	90,586 00	63 04	10,606	247,843 00	23 37

¹ Salaries of teachers includes principals, teachers and clerical.

² Includes truant schools.

³ Includes kindergartens.

⁴ Salaries of elementary special schools are included.

⁵ Includes kindergarten salaries.

⁶ Includes Normal School.

TABLE XII.

Table XII.

Number and Average Annual Salaries of Teachers in Special Departments.

CITY.	DEPARTMENTS OF					
	COOKING.			SEWING.		
	Number of Teachers.	Total Salaries.	Average Salary per Teacher	Number of Teachers.	Total Salaries.	Average Salary per Teacher.
Boston.....	38	\$26,150 86	\$688 18	87	\$45,338 11	\$521 13
New York ¹	115	127,200 00	1,106 08	62	73,000 00	1,177 42
Chicago.....	44	*26,498 65	602 24	—	—	—
Philadelphia.....	22	20,206 38	918 47	70	58,543 02	764 90
St. Louis.....	—	—	—	—	—	—
Cleveland.....	—	—	—	—	—	—
Baltimore.....	23	10,050 00	436 95	27	16,832 34	623 42
Milwaukee.....	10	9,070 00	907 00	—	—	—
San Francisco....	9	8,400 00	933 33	1	1,200 00	1,200 00
Washington ²	25	16,169 50	646 78	33	20,712 50	627 65
Minneapolis.....	16	13,893 00	868 31	1	1,300 00	1,300 00
Indianapolis.....	10	7,675 00	767 50	6	5,275 00	879 17
Providence.....	—	—	—	—	—	—
St. Paul ³	4 ⁴	3,375 00	843 75	4	—	—
Worcester.....	6	3,226 32	537 72	4	2,558 00	639 50
Fall River.....	—	—	—	5	3,200 00	640 00
Lowell.....	—	—	—	1	800 00	800 00
Cambridge.....	1	880 00	880 00	11	4,325 00	180 20
Lynn.....	1	700 00	700 00	—	—	—
Springfield.....	4	2,887 00	721 75	3	2,050 00	683 33

¹ Taken from the budget, gives number of teachers for May 31, 1909, and salaries.

² Approximate.

³ In graded schools.

⁴ Sewing and cooking combined.

Table XII.

Number and Average Annual Salaries of Teachers in Special Departments.

DEPARTMENTS OF

WOODWORKING, SLOYD, ETC.			DRAWING.		
Number of Teachers.	Total Salaries.	Average Salary per Teacher.	Number of Teachers.	Total Salaries.	Average Salary per Teacher.
100	\$60,643 96	\$918 84	1	—	—
200	90,020 00	1,863 94	453	\$72,860 00	\$1,374 72
—	—	—	—	—	—
28	31,154 57	1,112 66	43	56,590 00	1,316 04
432	27,033 05	844 78	8	10,885 00	1,360 62
—	—	—	—	—	—
15	10,000 00	666 66	11	8,700 00	790 90
10	8,234 00	823 40	—	—	—
11	14,560 00	1,323 63	9	16,500 00	1,833 33
18	14,190 00	788 33	14	9,387 50	669 89
—	—	—	2	3,500 00	1,750 00
17	13,275 00	780 88	4	6,000 00	1,500 00
—	—	—	1	4,540 99	1,135 24
13	1,110 00	85 38	1	1,600 00	1,600 00
14	14,783 38	1,055 96	5	5,270 00	1,054 00
—	—	—	1	1,300 00	1,300 00
—	—	—	2	1,500 00	750 00
—	—	—	8	3,948 00	493 50
1	1,000 00	1,000 00	3	2,950 00	983 33
7	6,950 00	992 85	9	5,200 00	577 77

¹ Drawing included with woodworking, sloyd, etc.

² Called "shop work."

³ Manual training.

⁴ Includes manual training and domestic science.

Table XII.—*Concluded.*

Number and Average Annual Salaries of Teachers in Special Departments.

CITY.	DEPARTMENTS OF				
	MUSIC.			PHYSICAL TRAINING.	
	Number of Teachers.	Total Salaries.	Average Salary per Teacher.	Number of Teachers.	Total Salaries.
Boston	9	\$17,788 48	\$1,975 94	32	\$33,702 88
New York ¹	53	75,160 00	1,418 11	31	37,900 00
Chicago.....	10	7,513 50	751 35	10	7,215 25
Philadelphia.....	22	25,867 31	1,183 05	24	28,033 22
St. Louis	8	8,124 65	1,060 75	8	8,124 65
Cleveland.....	—	—	—	—	—
Baltimore.....	4	4,740 00	1,050 00	6	4,740 00
Milwaukee.....	1	2,000 00	2,000 00	5	7,600 00
San Francisco....	4	5,400 00	1,350 00	2	2,400 00
Washington ²	18	12,980 50	721 14	13	8,275 00
Minneapolis.....	1	1,500 00	1,500 00	1	1,500 00
Indianapolis.....	4	5,350 00	1,337 50	3	2,700 00
Providence.....	3	4,083 23	1,361 11	1	1,600 00
St. Paul ³	1	1,700 00	1,700 00	1	1,500 00
Worcester.....	8	3,778 00	1,259 33	1	1,084 88
Fall River.....	1	1,400 00	1,400 00	—	—
Lowell.....	2	2,050 00	1,025 00	—	—
Cambridge.....	2	2,850 00	1,425 01	1	950 00
Lynn.....	2	2,300 00	1,150 00	2	900 00
Springfield.....	7	2,500 00	357 14	6	6,120 00

¹ Taken from the budget, gives number of teachers for May 31, 1900, and salaries.

² In graded schools.

Table XII.—*Concluded.*

Number and Average Annual Salaries of Teachers in Special Departments.

DEPARTMENTS OF				
PHYSICAL TRAINING.	ALL OTHER.			
Average Salary per Teacher.	Designation.	Number of Teachers.	Total Salaries.	Average Salary per Teacher.
\$1,053 21	—	—	—	—
1,223 58	{ French teachers.	6	\$8,400 00	\$1,400 00
	{ German teachers.	51	74,600 00	1,462 75
	{ Penmanship teacher.	1	1,200 00	1,200 00
721 52	—	—	—	—
1,168 05	Clay modeling.	3	1,800 00	600 00
1,015 58	Penmanship.	1	1,750 00	1,750 00
—	—	—	—	—
790 00	—	—	—	—
1,520 00	—	—	—	—
1,200 00	—	—	—	—
638 54	—	—	—	—
1,500 00	—	—	—	—
920 00	{ Penmanship.	1	1,800 00	1,800 00
	{ German teachers.	40	20,000 00	750 00
1,600 00	—	—	—	—
1,500 00	Penmanship.	1	1,200 00	1,200 00
1,084 88	{ Writing teacher.	1	855 00	855 00
	{ German teachers.	2	2,100 00	700 00
	{ French teachers.	3	1,900 00	633 33
—	Reading teacher.	1	1,100 00	1,100 00
—	—	—	—	—
950 00	Basketry.	2	105 00	52 50
400 00	Ninth Grade Latin.	1	900 00	900 00
1,020 00	—	—	—	—

Table XIII.

Amount and Per Cent Distribution of the Cost of Physical Maintenance of Schools, Classified by Kind of Maintenance for which Paid, for Twenty Cities.

CITY.	COST OF PHYSICAL MAINTENANCE.			
	Total.	Light, Fuel, Water and Power.	EXPENDED FOR	
			Books.	Supplies for Manual Training, Domestic Art and Domestic Science.
Boston.....	\$376,437 55	¹ \$149,987 67	\$68,817 43	\$31,237 58
New York.....	2,103,292 28	² 533,586 57	"	"
Chicago.....	533,845 77	³ 299,784 79	⁴ 17,561 77	74,398 75
Philadelphia.....	435,323 84	138,237 12	⁵ 243,527 28	"
St. Louis.....	263,694 67	65,917 31	30,405 05	9,842 68
Cleveland.....	151,750 07	¹ 79,730 83	33,657 50	"
Baltimore.....	173,358 82	66,105 40	⁶ 47,858 31	7,558 68
Milwaukee.....	104,627 00	64,960 00	⁷ 3,277 00	14,390 00
San Francisco.....	61,372 00	31,032 00	3,401 00	13,994 00
Washington.....	199,941 15	83,506 31	"	19,908 67
Minneapolis.....	131,028 11	52,728 06	⁸ 24,746 37	24,303 59
Indianapolis.....	66,788 67	46,895 32	⁹ 7,445 12	12,448 43
Providence.....	93,739 22	46,086 25	24,448 47	4,563 74
St. Paul.....	70,882 36	39,331 00	—	3,000 00
Worcester.....	56,625 61	36,461 46	¹⁰ 15,514 37	4,649 78
Fall River.....	34,756 68	17,286 88	"	"
Lowell.....	31,677 85	24,401 05	¹¹ 6,614 84	661 96
Cambridge.....	48,535 81	24,431 91	"	"
Lynn.....	32,732 97	¹² 13,288 64	9,371 54	830 61
Springfield.....	119,528 00	48,245 00	11,850 00	4,701 00

¹ Includes light, power and fuel only.

² Light furnished by the city, and for the administrative building; heat, light and power are included.

³ Included in "all other supplies and incidentals."

⁴ Fuel only.

⁵ Includes text-books only.

⁶ Includes stationery.

⁷ Included with all other supplies and incidentals.

⁸ Supplementary reading; no free text-books.

⁹ Text-books included with all other supplies.

Table XIII.

Amount and Per Cent Distribution of the Cost of Physical Maintenance of Schools, Classified by Kind of Maintenance for which Paid, for Twenty Cities.

COST OF PHYSICAL MAINTENANCE	PER CENT OF THE COST OF PHYSICAL MAINTENANCE EXPENDED FOR			
	Light, Fuel, Water and Power.	Books.	Supplies for Manual Training, Domestic Art and Domestic Science.	All other Supplies and Incidentals.
EXPENDED FOR				
All other Supplies and Incidentals.				
\$126,894 87	39.8	18.3	8.3	33.6
*1,569,705 71	25.4	—	—	74.6
142,100 46	56.2	3.3	13.9	26.6
*53,559 44	31.7	56.0	—	12.3
157,528 63	25.0	11.5	3.7	59.8
*38,361 74	52.5	22.2	—	25.3
51,835 93	33.1	27.6	4.4	29.9
22,000 00	62.1	3.1	13.8	21.0
12,945 00	50.6	5.5	22.8	21.1
*96,526 17	31.8	—	9.9	48.3
29,250 07	40.2	18.9	18.6	22.3
—	70.2	11.2	18.6	—
18,640 76	49.1	26.1	4.9	19.9
8,500 00	33.8	—	4.2	12.0
—	64.4	27.4	8.2	—
*17,469 80	49.7	—	—	50.3
—	77.0	20.9	2.1	—
*24,103 90	50.3	—	—	49.7
9,242 18	40.6	28.7	2.5	28.2
54,731 00	33.4	9.9	3.9	45.8

* Includes text-books and all other supplies.

* Included with all other supplies and incidentals.

* Text-books included with all other supplies.

PART V.—CONCLUSIONS AND RECOMMENDATIONS.

From the foregoing review of the school system of Boston, and comparison with other cities, the Finance Commission has reached the following

CONCLUSIONS.

1. No thoroughly satisfactory comparisons of costs can be made between the Boston school system and those of other cities, because of the difference in the methods of school accounting, in the presentation of school data, and in school conditions. So far as such comparisons can be made, however, they are on the whole favorable to Boston.

2. Boston's schools have reached their present condition under the guidance of those wise counsellors, whose aim has been the development of a well ordered system of centralized authority in which the School Committee should legislate upon matters of general policy, while the details of administration should be cared for by paid officials trained in educational and business affairs.

3. The administration of the School Committee, both on the educational and business sides, is entitled to the full confidence of the community. At no time in the history of the schools have they been conducted in a more intelligent or economical manner than at present. In the matter of getting a dollar's worth of value for every dollar spent the School Department contrasts very favorably with most other departments of the city. In fact, other departments might well study this department with a view to imitating it in regard to scales of salary, absence of unnecessary employees, economical methods

of purchase, intelligent schemes of supervision and organization, merit system of promotion and exclusion of politics from appointments. The School Department is not perfect in these respects, but when the other departments are brought to the same level, or nearly to the same level, the city will have made an enormous step in advance.

4. There is very little opportunity for retrenchment in school expenditures. Although the amount expended annually is large, the purposes for which the money is spent are definitely fixed by statute or by schedule, or by the actual necessities of the situation; for example:

(a) Salaries of instructors, janitors and subordinates are established upon carefully prepared schedules, which cannot in justice be reduced. To meet them there is required each year more than four-fifths of the total appropriations. Salaries of officials are in addition, and an analysis shows that none of these is excessive.

(b) Pensions, the cost of physical education, of nurses, and of repairs are the subjects of special statutes, and the amounts authorized are not too large.

(c) Fuel, light and power are necessities, which the Finance Commission believes are being provided economically.

(d) Books are also necessities, in the purchase of which there seems to be no practical way to effect material economies.

(e) Trust funds cannot be touched, except for their own definite purposes.

(f) All that remains is the item of incidentals, which includes supplies of all kinds other than books. This amounts to only about 3 per cent of the total school expenses and any material reduction would not only be insig-

nificant in amount, but harmful to the school system. The only just criticism that can be made here is that the financial needs of the schools have sometimes compelled a too great economy in this direction.

5. The large expenditures of recent years are due to an attempt to supply the deficiencies of previous years and to meet real needs. In response to popular demands many experiments have been and are being made which have not yet fully shown their worth. Some of these experiments may fail; but all progress comes through experiment. There is nothing which is being done which is not worth serious consideration and a fair trial.

6. The introduction of advisory committees is excellent, if not carried too far. These advisory committees are not elected by or in any way responsible to the people; they are quite large, and are made up of busy men, whose early interest sometimes wanes, and the real control falls into the hands of a few energetic enthusiasts. The responsibility of final decision in all matters must rest with the School Committee, and in weighing the advice given the question of how far the entire advisory committee has taken part in the matter should be considered. The history of the non-elected primary school committee from 1818 to 1854, and its controversy with the elected school committee which created it, is a warning against the dangers that may arise in this direction.

RECOMMENDATIONS.

The commission recommends:

1. That the names attached to the positions of auditor and business agent be transferred one to the other, so that each office shall have a name which

properly describes it, and that the present confusion of duties may be avoided.

2. That the publication of two reports, one by the business agent and one by the auditor, be discontinued, and that there be substituted therefor a single report on school finances, which may be prepared by the two officials in co-operation, or may contain reports from each, but which shall contain no duplication of material.

3. That the schools be given jurisdiction over licenses of all minors, of whatever age, who attend school.

4. That the Board of Superintendents and other highly paid officials be allowed sufficient clerical assistance whenever it is required in the discharge of their duties.

5. That clerical assistants to the principals be appointed in the elementary schools.

6. That books be not allowed in the schools after they have been removed from the authorized lists; nor after they have become unduly worn or unclean.

7. That every care be taken to exclude incompetent teachers from the service; and to that end that a more complete and thorough system of visitation of schools and teachers be introduced, possibly through an enlargement and extension of the department under the supervisor of substitutes.

8. That the policy of reducing the quota of pupils to teachers in the high and elementary schools be continued, and that still further reductions be made.

9. That the existing policy of permitting the use of school buildings for other than school purposes be extended as funds become available.

10. That, if necessary, the Legislature be asked to grant a larger appropriation for school purposes. This can readily be done without materially raising the tax rate, if reasonable economies so often recommended by the Finance Commission be introduced in other municipal departments. Waste, due to political methods in other departments, should not be allowed to absorb the money needed by the child.

APPENDIX.

APPENDIX I.

REPORT ON THE BOSTON NORMAL SCHOOL:

February 25, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,— On September 24, 1910, your Honor requested the Finance Commission to investigate and report on the question whether the Boston Normal School should be transferred to the state and maintained at state expense, or, if that should be inadvisable, to consider the question whether some compensation should not be given by the state to the city for work performed on the state's behalf.

The commission has caused the investigation to be made by the director of the Bureau of Municipal Research, Mr. George A. O. Ernst, and it submits a copy of his report herewith. The commission concurs in the conclusions and recommendations therein contained.

This commission, like its predecessor the former Finance Commission, has given much thought to such readjustments of expense between the city and the state as will do justice to the city and make the institutions affected more successful. With this in mind the transfer of the Boston Insane Hospital to the state was recommended and effected, the city saving upwards of \$100,000 a year thereby and the inmates being better cared for. This commission has also recommended a transfer of the Suffolk School for Boys and the placing-out and office division of the Children's Institutions Department to the state which, if effected, will save the city nearly \$100,000 annually and improve the lot

of the children now intrusted to the city. But such saving of expense is not so clear in the case of the Boston Normal School, and it is also not clear that taking from Boston control of the educational standards of its teachers will be beneficial.

The commission believes, however, that Boston should not maintain its Normal School at its sole expense, but that the state should contribute to its support.

The commission therefore recommends that the city retain control of the school and that legislation be passed along the lines of House bill No. 589, which has been introduced by your Honor.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN F. MOORS,
Acting Chairman.

February 21, 1911.

To the Boston Finance Commission:

GENTLEMEN,— You have requested me to investigate the following questions: First, whether the Boston Normal School should be transferred to the state, and second, if not, whether the state should be asked to contribute to the city a part of the cost of the maintenance of the school.

I have done so and have reached the following conclusions:

1. That the only reason for the transfer is the injustice of making Boston pay the entire expense of its own Normal School while also paying, through the state tax, a little more than one third of the expense of the state normal schools.

2. That there is a strong popular feeling against the transfer and that this feeling is shared by such educational experts as Ex-Superintendent Edwin P. Seaver and George B. Martin, former member of the Board of Supervisors and now treasurer of the State

Board of Education, and that there is at present no urgent demand for the transfer.

3. That under the School Board as at present constituted and because of the establishment of a merit list in making appointments of teachers, there is less reason than there may have been in the past to urge the transfer.

4. That the Normal School, if properly conducted, has a distinct value to Boston in training teachers for the especial local needs of Boston schools.

5. That under state auspices the school would probably grow to very large proportions and that Boston's share of the total cost of maintenance would in the end probably be quite as large as the amount which it now pays for the entire cost of maintenance.

6. That Mayor Fitzgerald's petition, now before the Legislature, remedies the present injustice by asking a contribution from the state, meanwhile preserving the school as a Boston institution.

7. That on the whole it is better, if possible, to secure a contribution from, than a transfer to, the state.

The following are the facts and reasons upon which these conclusions are based:

1. HISTORICAL SURVEY.

"As is the teacher so is the school." This axiom, borrowed from Prussia, was the text used by Horace Mann and others in securing the establishment of normal schools in Massachusetts. (Martin's *Evolution of the Massachusetts Public School System*, page 202, page 170.)

Prior to the establishment in 1837 of the State Board of Education and the election of Horace Mann as its secretary, there was little opportunity for preparation for teaching as a profession, although for many years the leaders of educational reform had urged the establishment of a seminary for the special training of teachers. (*Id.*, page 169.)

In 1838 Edmund Dwight of Boston, a member of the Board of Education, offered to give \$10,000 if the state would give an equal sum for the instruction of teachers in normal schools; and in that year the Legislature appropriated \$10,000 to be expended by the Board of Education in the training of teachers. (*Id.*, page 171.)

The first normal school in America was opened at Lexington July 3, 1839 (later transferred to West Newton and then to Framingham), and on September 4, 1839, one was opened at Barre (later transferred to Westfield). A third was opened at Bridgewater September 9, 1840. (*Id.*, page 172.)

At the present time there are ten state normal schools as follows:

Normal Schools.	First Opened.
Framingham	July 3, 1839, at Lexington.
Westfield.	September 4, 1839, at Barre.
Bridgewater	September 9, 1840.
Salem	September 14, 1854.
Boston, Normal Art	November 11, 1873.
Worcester	September 15, 1874.
Fitchburg	September 11, 1895.
North Adams	February 1, 1897.
Hyannis (Barnstable)	September 9, 1897.
Lowell	October 4, 1897.

The Boston Normal School was established in 1852. (City Document 40 of 1852.) It was among the first fruits of the establishment in 1851 of the position of Superintendent of Schools. Nathan Bishop, who was the first Superintendent of Schools in Boston, saw the great need of better teachers and strongly urged a city normal school as a means of securing them. (City Document 73 of 1852, page 38.)

There was no thought then of the state ever taking over the school. On the contrary, it was specifically intended to be a city school. The committee in recommending its establishment uses this language (City Document 32 of 1852, page 14): "It never was the design and probably never will be the policy of the

state to maintain schools of this character in sufficient numbers to qualify and furnish teachers for all the schools of the state. But it was confidently believed that, should a full and fair experiment be made under her auspices, and the results answer the expectations of the friends of popular education, the various counties and cities would thereby be induced to found similar schools for their especial benefit and under their own control."

This hope, however, has not been fulfilled, for there are practically no county or city normal schools outside of Boston, although there are several training schools. In New Bedford there is a Normal and Training School, so called, but it is very small.

The original purpose of the Boston Normal School was to prepare young women to become teachers, but by force of circumstances it soon became almost exclusively a means of giving girls a high school education. A high school for girls had been established in Boston in 1826, but was given up in 1828 for the singular reason that it was too successful, attracting too many scholars. Efforts were made later to re-establish such a school, but they were resisted. After the Normal School was established in 1852 it became evident that girls fresh from the grammar schools were not fit candidates for normal training and that high school education was necessary as a preliminary to normal work. Friends of further educational opportunities for girls took advantage of this as a means of securing high school courses for all girls, whether they intended to teach or not, and in 1854 the School Committee, with a view of adapting the school to the double purpose of giving its pupils high school and normal instruction, caused the introduction of additional courses of study, and the institution became the Girls' High and Normal School. So great was the demand for high school education for girls that the normal features were soon quite overshadowed by the high school work. To remedy this a training department was organized in 1864. This did

not accomplish the desired result, and the normal element was again practically crowded out by the high school work. This continued until 1872, when the School Committee yielded to the popular demand for a special High School for Girls and thereafter the Normal School and the Girls' High School were conducted as separate institutions. (Annual School Report of 1873, page 229 *et seq.*)

This separation gave rise to the question of the legality of using the city's money for a purely normal school, and the Corporation Counsel having ruled it illegal (*id.*, page 258), the Legislature confirmed the city's right to continue it. (Acts of 1874, ch. 167.)

In 1882 the City Solicitor ruled that the city could not legally provide instruction in the Normal School for the benefit of teachers already in the service of the city, and the Legislature thereupon gave the necessary authority. (Acts of 1882, ch. 136.)

In 1888 the course in the Normal School was extended to one and one-half years; in 1892 to two years, which is the present term. A further extension is contemplated.

The school having been originally established for girls, the Corporation Counsel ruled that men could not be admitted, and in 1904 the Legislature being appealed to authorized the instruction of men therein. (Acts of 1904, ch. 212.) This privilege has never been freely availed of, there being at the present time eleven men in attendance out of a total of 230.

From the beginning the school has been handicapped in its work, first by the overshadowing of the high school element, and subsequently by lack of proper accommodations until 1907, when the Normal Group of buildings on Huntington avenue was completed and occupied.

2. EFFORTS TO TRANSFER THE SCHOOL TO THE STATE OR TO OBTAIN STATE CONTRIBUTIONS.

Efforts from time to time have been made to discontinue the school and have it taken over by the state

or to induce the state to contribute to its support, but they have been uniformly and strongly resisted.

In 1898 the School Committee (Minutes of 1898, page 310) voted in May (13 to 9) to discontinue the school, but the popular protest was so great that in November (*id.*, page 574) the vote was rescinded (17 to 4). Among those who, having voted in the spring to discontinue the school, reversed the vote in the fall was A. Lawrence Lowell, now President of Harvard University.

In 1904 the School Committee petitioned the Legislature for an act requiring the state to pay to the city "such proportion of the cost of maintaining the Boston Normal School as the Commonwealth should justly assume" (House No. 450), but was given leave to withdraw.

In 1906 Mayor Fitzgerald in his first inaugural address said:

"Boston supports a Normal School out of its city treasury and at the same time pays 36 per cent of the cost of other normal schools located in different sections of the state. It is an open question whether the time has not arrived for the city to ask the state to take over the city Normal School, thus relieving Boston of a special burden for which it is doubtful if it receives any adequate compensating advantages."

The School Committee referred this part of the Mayor's address to the Board of Supervisors (Minutes of 1906, page 4) who reported that inasmuch as the construction of a new Normal School had already been begun further consideration of the matter seemed unnecessary. (*Id.*, page 122.)

The School Board voted to authorize the chairman on behalf of the Board to petition the Legislature for the passage of an act to provide that the Commonwealth pay to the city the sum of \$170 for each pupil in the Boston Normal School completing the prescribed course of study (*id.*, page 22; House No. 589 of 1906); also to reimburse the City of Boston for the expense to be incurred by the city in erecting and equipping a new

Normal School building to an amount not exceeding \$300,000. (*Id.*, page 24.) The Legislature gave leave to withdraw.

Mayor Fitzgerald has petitioned the present Legislature to make an allowance to Boston for its Normal School equivalent to the average cost of the same number of pupils in the State Normal Schools. (House No. 589 of 1911.)

3. COMPARISON OF COST OF THE BOSTON NORMAL SCHOOL WITH STATE NORMAL SCHOOLS.

It is not easy to compare the cost of the State Normal Schools with that of Boston, because the conditions are different and the fiscal years terminate at different times. The course in the Boston Normal School is two years, while some of the state schools have three and even four year courses. Several of the state schools have dormitories and large grounds which add to the cost.

At my request the Commissioner of Education, Dr. David Snedden, has made a statement of what he regards as fairly comparable costs, as follows:

COMPARISON OF EXPENDITURES OF THE VARIOUS NORMAL SCHOOLS.

I.	State expenditure for nine state normal schools for 1910,	\$341,708.47
	State expenditure, less model school buildings and grounds and summer school	\$235,735.01
	Total attendance for December 1, 1910.....	1,835
	Per capita cost on total state outlay.....	\$186.21
	Per capita cost on state outlay, less model school buildings and grounds.....	\$128.46
II.	<i>Bridgewater Normal School</i> — Total state expenditure..	\$53,991.00
	State expenditure, less model school, buildings and grounds.....	\$37,300.76
	Total attendance, December 1, 1910.....	330
	Per capita cost of state on total expenditure.....	\$163.61
	Per capita cost on state expenditure, less model school, buildings and grounds.....	\$113.03
III.	<i>Salem Normal School</i> — Total state expenditure.....	\$44,425.00
	Total expenditure, less model school, buildings and grounds.....	\$33,563.00

Total attendance, December 1, 1910.....	244
Per capita cost on total state outlay.....	\$182.07
Per capita cost on state outlay, less model schools, buildings and grounds.....	\$137.56
IV. <i>Boston Normal School</i> — Total expenditure for 1909-10.....	\$39,815.55
Total expenditure, less one training teacher (\$1,836), and amounts for fuel, power and light.....	\$36,146.50
Average membership, 1909-10	215
Per capita cost on total outlay.....	\$185.19
Per capita cost on outlay, less one training teacher, fuel, power and light.....	\$168.12

NOTE.—The state normal schools (other than the Normal Art School) train only elementary teachers and their expenditures alone are employed here since the expenditures of the Normal Art School are affected by other conditions. The total expenditure under the first head excludes the contribution of Fitchburg, since this is merely a bookkeeping device providing for the contribution of Fitchburg toward the education of children in practice schools. Under Items I., II. and III. the second total is arrived at by deducting costs of model school, maintenance of buildings and grounds and the summer school in the case of the Hyannis Normal. The amounts thus arrived at correspond very fairly with the expenditure on the Boston Normal School when fuel, power and light, and the salary of one training teacher (\$1,836), are deducted. For purposes of comparison, therefore, the second per capita in each case seems to be the fairer one.

Doctor Snedden's figures seem to indicate that Boston pays \$168.12 for what the state pays \$128.46 at nine schools, or \$113.03 at Bridgewater and \$137.56 at Salem. Doctor Snedden says that this excess cost does not necessarily mean extravagance in the Boston management, and that probably the cost would not be materially reduced under state management. I am myself convinced that the circumstances are so different that a fair comparison can hardly be made.

4. GROUNDS OF OPPOSING THE TRANSFER.

Six of the state Normal Schools have dormitory facilities and in these the state practically contributes to the students free rooms, charging only for board and incidentals. Thus the cost to the state for training a girl in a Normal School having a dormitory is greater than in the other Normal Schools. In its latest Annual Report (Public Document of 1911, No. 2) the State Board of Education says: "There can be hardly any question that two years of dormitory life under proper conditions do much to widen the outlook and enlarge the social capacity of those who are to be

teachers. Normal School students are drawn from the middle ranks of life, and if a young woman lives at home during the time she is preparing for her profession, and especially if she spends considerable time in traveling to and from school, she is hampered in her work and lacks certain advantages incident to dormitory life.

If this argument should prevail in Boston, the Boston Normal School under state auspices might become very expensive. There are no dormitories connected with the Boston Normal School; should it be taken over by the state there might be a demand for them from nonresident pupils. This is, of course, not an immediate danger, but it should be considered.

There would undoubtedly be a much larger attendance of pupils from outside of Boston if it became a state institution. At present outsiders pay Boston for their tuition, and the number is thus restricted. If the state should take the school there would be no charge, and consequently no pecuniary restraint upon attendance.

If the state should take over the Boston Normal School it is entirely possible that Boston would be required to furnish the site and perhaps the building. It would be a matter of compromise and, as Boston would take the initiative, the state would probably be at least lukewarm, Boston would have to do the yielding. In 1894 North Adams, Fitchburg and Lowell (by Acts of 1894, ch. 45) were each required to pay into the Treasury of the Commonwealth \$25,000 in cash, Hyannis was required to furnish the school site, and each was required to agree in writing "to hereafter furnish suitable and sufficient school buildings and model and practice schools in connection with the training departments of said Normal Schools."

The total annual cost to Boston, as shown above, of maintaining the Normal School is about \$40,000, without allowing for repairs, interest or depreciation, as the city pays a little more than one-third of the state

tax (last year the rate being 34.18 per cent), and the approximate saving by transfer to the state would not exceed \$27,000. This might easily be offset by its contribution through the state tax to the increased cost of an enlarged school.

A subcommittee of the School Board in 1898 made a long report upon the question of transfer, and gave the following reasons for opposing it (School Document 4 of 1898, page 15):

1. Because Boston's share in the financial support of a State Normal School for the metropolitan district would be as great as the whole expense of maintaining her own Normal School.

2. Because Boston would lose the direct control she now exercises over the scholastic and the professional training of nearly one-half of her teachers.

3. Because there is no reason to believe that a State Normal School would insist on any higher qualifications in scholarship for admission or for graduation than are now insisted on by the city Normal School, so long as the State School kept itself to the business of preparing teachers for the grammar and primary schools of its district.

4. Because, on the other hand, if the State Normal School should assume the function of preparing teachers for high schools, throwing its chief energy into that work and becoming an institution of something like collegiate rank, as has been forcibly suggested by the advocates of a change, then it would become necessary for Boston to maintain a city training school, as many cities and towns find it necessary now; and this city training school would be simply the city Normal School under a new name.

5. Because there is no reason to believe that by the establishment of a State Normal School Boston could escape the necessity of employing in her own schools a large number of beginners, nor that these beginners, even if they came in large numbers from other cities and towns, would differ materially in character, culture

and professional preparation from the beginners who now come from the city Normal School.

6. Because by keeping the training of teachers largely in her own hands the city can move easily and meet readily the demands for improvements and reforms in education. As drawing, music, kindergartening and physical culture have been greatly promoted in the schools through the direct agency of the city Normal School, so will nature work, manual training and other improvements be promoted, and have already, so far as limited facilities permitted, been promoted in the same way.

7. Because the Boston Normal School was established for the very purpose of "giving professional instruction to young women who intend to become teachers in the public schools of Boston," and it is a wise policy to encourage to a reasonable extent young women born and educated in Boston to enter the public-school service, while it would be unwise to discourage them.

The then superintendent, Edwin P. Seaver, was called upon to give his opinion and stated (Minutes of 1898, page 309):

He "had been steadily of the opinion that it would be an unfortunate mistake to give up the Normal School. If the state should establish a normal school in or near this city there would still be a need of special training for the better fitting of State Normal School graduates to teach in the Boston schools. Other cities, notwithstanding the existence of state normal schools, have found city training schools a necessity. And a city training school is only our Normal School under another name. The number of teachers now coming from outside the city is considerable, and, taking them grade by grade, the number of failures among them is about the same as among the graduates of our Normal School. The failures come mainly, not from lack of scholarship, but from defects of temperament and personality. These defects when serious are not removed by any sort of professional training."

Mr. George H. Martin, a former supervisor, now treasurer of the Board of Education, opposes the transfer on substantially the same grounds. He gives one especially strong reason; that "while in a general way the system of public schools in the state is uniform, yet there are local differences in the points of emphasis which differentiate the schools of one community from another. These local differences a state normal school must ignore. The city school can recognize them and can fit itself to the local conditions and local demands. The attempt to meet the needs of Boston in a state school would require the most delicate adjustment of the relations between the city and the state and would open the way to endless friction."

This recognition of local needs may easily be carried to excess, resulting in a narrow provincialism, and consequent injury to the schools; but under proper administration there need be no such danger.

The claim sometimes has been made by or on behalf of the Normal School graduates that Boston having furnished them with a gratuitous education is bound by that fact to furnish them with opportunities to teach. The validity of this claim is not recognized at present to the extent that it has been. It is now considered both in practice and theory that Boston schools are for Boston children. Normal School graduates are given preference in employment whenever and only when the interests of the schools will permit. The merit list is something more than a name. The time has gone by for anyone seriously to urge that the fundamental right of the community to secure, and of the child to be taught by a superior teacher, should be sacrificed to the philanthropical desire to give an inferior teacher, however worthy, the opportunity to earn a living.

5. STATE CONTRIBUTION.

Among those with whom I have consulted I have found no active support of the transfer to the state. It seems to be generally accepted that since the erection

of the Normal Group the matter is settled in favor of the school's retention by Boston. If, then, Boston is to have any relief it would seem to be through state contribution and this Mayor Fitzgerald's bill now before the Legislature is intended to accomplish. All other parts of the state are cared for by state schools. Springfield — through Westfield, Worcester, Lowell, Fitchburg, North Adams, Framingham, Salem, Bridgewater, and the Cape get the benefit of these really local institutions at state cost. It would seem as if the state might very well be asked to pay a portion of Boston's expense. The bill in its present shape (House No. 589) authorizes payment by the State Treasurer to the city treasurer, but does not make it clear that any part of the money when received shall be used for school purposes. It should be amended, so that at least two-thirds shall go to the school fund. The remaining one-third might very well be used to reimburse the city for its share of the state tax, otherwise the result of the transaction would be to increase the school fund at the expense of other city needs.

Respectfully submitted,

GEORGE A. O. ERNST.

APPENDIX II.

REPORT ON MECHANIC ARTS HIGH SCHOOL.

BOSTON, March 1, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,—On November 29, 1910, your Honor sent to this commission a letter, a copy of which is attached hereto, in which you refer to the small sum received by the city from the Commonwealth for industrial schools and in which you submit the following question:

“May I ask your commission to consider whether by proper representations the State Board of Education might not be induced to extend the benefits of this subsidy to the Mechanic Arts High School, the cost of maintenance of which for the year 1909 was about \$100,000?”

Your Honor then proceeds to discuss the question thus laid before the commission, as follows:

“The term ‘independent industrial school’ in chapter 540 of the Acts of the year 1909 would seem to be applicable under a broad interpretation of the words to this particular school, and if such a construction should be accepted by the State Board of Education, the city would receive next year more than \$50,000.”

The question in your Honor’s letter was referred by the commission to the Director of the Bureau of Municipal Research, Mr. George A. O. Ernst, a copy of whose report is transmitted herewith.

Since the date of your letter, your Honor has introduced in the Legislature a bill (House Bill 828) seeking to have the Mechanic Arts High School of the City of Boston “considered an independent school for indus-

trial training," and thus to be entitled to state support, under chapter 505 of the Acts of 1906 and amendments thereto.

The words "industrial training" and "industrial education" have a very technical meaning as now defined by the State Board of Education, and the Mechanic Arts High School, as at present conducted, does not fit this definition. If a subsidy is to be obtained for the school from the state, its functions will have to be changed to conform to the standards of the state.

The State Board of Education and the Boston School Committee now have authority of law to make such changes, and so obtain a state subsidy if they deem it advisable. Therefore it seems that House Bill No. 828 is unnecessary, unless its purpose is to make an exception to the law relating to industrial school subsidies, and thus obtain a subsidy for the Mechanic Arts High School as if it were an industrial school. The commission submits that the making of such an exception would be to establish an expensive precedent, as other cities and towns might ask for similar exceptional subsidies, one-third of the expense of which would have to be borne by the City of Boston. It is also to be suggested that if the Mechanic Arts High School is transformed into an industrial training school, it is possible that there will be a substantial demand for the establishment of another Mechanic Arts High School to take the place of the one so abolished.

The commission answers your Honor's specific questions, as follows:

1. No legislation is required to change the character of the Mechanic Arts High School and so to obtain a subsidy.

2. The result of the enactment of House Bill No. 828 would establish an expensive precedent, and lead ultimately to increased instead of decreased expense to the city.

3. The commission is convinced that no such radical step should be taken except after careful study by our local school authorities of the problems involved, and with the full approval of the State Board of Education.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN F. MOORS,
Acting Chairman.

Boston, March 1, 1911.

THE FINANCE COMMISSION:

GENTLEMEN,—In accordance with your request I have investigated the situation in regard to the Mechanic Arts High School with special reference to the bill now pending before the Legislature (House No. 828) accompanying the petition of Mayor Fitzgerald, by which the Legislature is asked to declare the Mechanic Arts High School to be an independent school for industrial training, and to appropriate a sum of money towards its support. The bill reads as follows:

SECTION 1. The Mechanic Arts High School, in the city of Boston, shall be considered an independent school for industrial training, under the provisions of chapter five hundred and five of the acts of the year nineteen hundred and six, and acts in amendment thereof, and as such shall be entitled to be reimbursed by the Commonwealth under the provisions of said chapter, and of acts in amendment thereof.

SECT. 2. There shall be appropriated to be paid out of the treasury of the Commonwealth from the ordinary revenue for meeting the Commonwealth's proportion of the cost of the maintenance of said Mechanic Arts High School, the sum of thousand dollars.

SECT. 3. This act shall take effect upon its passage.

This bill seems to be unnecessary. If, in the opinion of the Boston School Board and the State Board of Education, it is wise to change the Mechanic Arts High School into "an independent school for industrial training," that object can be accomplished without further legislation under laws now existing.

By chapter 505 of the Acts of 1906 as amended (Acts

of 1909, chapters 457 and 540) to which the Mayor refers, any city, town or district may establish an "independent industrial school" provided that it is "approved as to location, courses and methods of instruction" by the State Board of Education, and "upon certification by the Board of Education to the Auditor of the Commonwealth that a city, town or district, either by moneys raised by local taxation or by moneys donated or contributed, has maintained an independent industrial school, the Commonwealth, in order to aid in the maintenance of such schools, shall pay annually from the treasury to such cities, towns or districts a sum equal to one-half the sum raised by local taxation for this purpose: *Provided*, that no payment to any city or town shall be made except by special appropriation by the Legislature."

If, on the other hand, the bill is interpreted as declaring that the school as at present conducted is an "independent industrial school" it ignores the definition of those words as laid down by the State Board of Education and is a complete abandonment of the theory upon which the recent legislation as to industrial education is founded. Its enactment in its present form would establish a dangerous precedent which other communities might follow, and in the long run might prove to be very costly to Boston. It undertakes arbitrarily to pick out one school from one city in the Commonwealth, usurps the functions which under existing law are intrusted to the State Board of Education, of approving "the location, courses and methods of instruction" and compels a well-nigh revolutionary change in one of the largest, most expensive and most important of the city schools.

The State Board of Education in a bill now pending before the Legislature defines industrial education as meaning "that form of vocational education which fits for the trades, crafts and manufacturing pursuits." The vocational side is paramount. The Mechanic Arts High School as at present conducted does not meet

this definition, as will appear from the following facts as to its origin and from the views expressed by various authorities.

In 1872 the Legislature passed an Act (chapter 86) authorizing cities and towns to establish "industrial schools," giving school committees power to prescribe the arts, trades and occupations to be taught therein.

In 1883 (School Document No. 4 of 1883, page 34) the then Superintendent of Schools in Boston, Edwin P. Seaver, made an elaborate and interesting report on "Industrial Education," recommending that the city "under the permissive statute now in force" should establish (page 45) "at some central point in the city one manual training school" which would not (page 46) "teach any single trade as would be done in an apprentice school; but its pupils would be so well grounded in the general principles of many trades that the specialties of each trade would be very quickly learned." He called especial attention (page 39) to the experiments which had been made in "the school of Mechanic Arts connected with the Massachusetts Institute of Technology in Boston and the Manual Training School of Washington University in St. Louis." He quoted from the catalogue of the latter school, "special trades are not taught; it is not assumed that every boy who enters the school is to be a mechanic."

In 1888 the City Council passed the following order:

"Ordered, That the School Board be requested to consider and report on the expediency of establishing a system of manual training in connection with the public schools of the city."

In compliance with this order a special committee on manual training schools was appointed by the School Board, and in its report (School Document No. 15 of 1889, page 4) this committee stated that it had "always thought that a school in manual training of the same rank as the English High School should be established," adding (page 8) "it is now nearly 255 years since our

city made provisions for the encouragement of the professions of divinity, law and medicine. In the opinion of your committee it is now full time for the encouragement of the latent industrial ability of our people."

To this report was appended an account by Superintendent Seaver of a visit made by him to St. Louis, Chicago and other cities for the purpose of studying the subject and a detailed plan for what he called a "mechanic arts high school, otherwise known as a manual training school."

In 1891 the committee on manual training, of which Samuel B. Capen was chairman, stated with emphasis (School Document No. 1 of 1891, page 7): "Let us not forget at the very outset that we ask not for a trade school, but for a manual training school. Both use tools, but the object is entirely different."

The school was first opened in 1893. The Massachusetts Institute of Technology had a short time before discontinued the High School of Mechanic Arts which it had been maintaining, and this was one of the strong arguments urged for the establishment of the new school.

After the school had been in operation eight years the Committee on Manual Training said (School Document No. 4 of 1901, page 34):

"It is important that the distinctive character and purpose of the school should be clearly apprehended. It is neither a trade school nor an institution peculiarly adapted to pupils of any particular class or social condition. Its special function is to furnish systematic instruction in drawing, and the elements of the mechanic arts, in addition to a thorough high school course in which mathematical and scientific branches predominate. The training which it gives is not less valuable to a boy who is to become a lawyer or a physician than to one who is to superintend a manufacturing establishment, or work at the bench. The many-sided activities of the school tend to reveal to boys their dominant powers and aptitudes, and lead them to a happy choice of occupation. It educates them not primarily to become mechanics, but to become men of intelligence and skill. It encourages industry, arouses ambition, and opens wide the avenues to success, usefulness and happiness. In an age charac-

terized by a marvellous development of industries based upon scientific and mechanical principles, when manual dexterity and a knowledge of mechanical processes are essential to success in numberless profitable employments, it is unnecessary to point out the great value of an institution which combines a good high school education with systematic training in the mechanic arts."

The first Finance Commission, having under consideration the advisability of enlarging the building, referred the matter to a special committee, consisting of Dr. Charles W. Eliot, Rev. Thomas I. Gasson, S. J., and Dr. Henry S. Pritchett, whose report was printed in Volume I., pages 72 to 80, of the reports of the commission. They said (page 74):

"It is not a trade school, nor does it send out young men who are likely to become journeymen in the various trades. Its purpose is to give, as the head-master has well said, a general education, with such training in the mechanical arts as will suggest to its pupils industrial pursuits. This purpose is an entirely different one from that of an industrial school or a trade school."

It is apparent from the foregoing that the words "industrial education" as used in the early days were not limited to purely vocational work, but were held to embrace manual training in the cultural sense, and that the Mechanic Arts High School was established and has grown up along lines which were well understood, and which differ materially from the present movement in vocational and industrial education.

The State Board of Education in its annual report for 1911 (page 51) says:

"There is every reason to believe that an attempt to carry on a program of vocational training in conjunction with a program of liberal studies will result in the demoralization of the vocational side of the work. In the minds of many people various forms of manual training are identified with industrial household arts and agricultural education. But experience has shown that manual training, while it is an important and

necessary feature of a program of liberal education, can play but a small part in the program of vocational training."

The Mechanic Arts High School has clearly met a popular demand and appreciation; it closed its first year with 158 pupils, but it soon outgrew its capacity of 400 pupils. A new building had to be erected to accommodate the constantly increasing application for admission. To-day it has an average attendance of approximately 1,200 pupils.

Authorities differ as to how far the school is fulfilling all its possibilities, and as to whether some changes should not be made in the curriculum, broadening its sphere of usefulness; but it is at least doubtful whether so complete a change should be made as would be necessary to bring the school within the definition given by the State Board of Education.

So far as these are educational questions they should be passed upon by the educational authorities, viz., the Boston School Board and the State Board of Education; but they have a distinct financial side, which should not be overlooked.

Boston pays approximately \$100,000 annually for the maintenance of the Mechanic Arts High School. If the School Board were to receive from the state one-half of this amount, viz., \$50,000, the city must repay to the state from the general tax rate approximately one-third in the form of an increased state tax. The net result would be a contribution to the school fund of about \$35,000 by the state and \$15,000 by the city from its other than school revenue. The immediate saving to the city would be about \$35,000. If the precedent established were followed by other cities not only would this saving be entirely lost, but the expense to the city would be increased by a further increase in the state tax.

To fit the school to the requirements of the State Board of Education many expensive changes would have to be made in the building and its appointments as

well as in the courses of instruction. There would have to be either a decrease of pupils or a substantial increase in the teaching force, for the quota of scholars to teachers established by the State Board of Education in industrial schools of this kind is 15, whereas the present quota is, under the rules of the School Board, 35, or in fact about 32. The same number of pupils therefore would require more than double the number of teachers, with a consequent doubling of the salary list. The present salary list is about \$75,000 per annum; if doubled, this would mean an additional cost to Boston of one-half the increase (\$37,500), together with approximately one-third of the remaining one-half, or about \$50,000 in all, which of itself is more than the apparent saving.

The year after the school was opened the Legislature passed a law which is still in force (Acts of 1894, ch. 471), requiring every city of 20,000 or more inhabitants to "maintain as part of its high school system the teaching of manual training." The Mechanic Arts High School meets this requirement. Should it be changed to an exclusively independent industrial school, within the meaning given to "industrial education" by the State Board of Education, the statute requirements as to manual training in high schools might have to be met in some other way, at an additional cost to the city. It has of course been established already in some high schools, although not sufficient to meet the popular demand.

In view of all the facts it would seem unwise for the Legislature to enact the bill which the Mayor has presented, at least in its present shape. The whole matter of the future of the Mechanic Arts High School should be left to the Boston School Board and the State Board of Education under the law as it now exists. There should be more public discussion of the subject before so radical a change should be adopted.

Respectfully submitted,

GEORGE A. O. ERNST.

CITY OF BOSTON,
OFFICE OF THE MAYOR, November 29, 1910.

HON. JOHN A. SULLIVAN,
Chairman Finance Commission,
Tremont Building, Boston:

DEAR SIR,— Under chapter 530 of the Acts of the Massachusetts Legislature for 1910 a sum of money amounting to \$24,229.02 was distributed among certain cities and towns of the Commonwealth which had established industrial schools. Of this sum Boston received only \$3,197, being, as we understand, one-fifth the cost of operation of the Evening Industrial School. We are informed that this payment was made under chapter 505 of the Acts of 1906, but that chapter 540 of the Acts of 1909 will go into operation from about July 1 of the present year. This act provides that one-half the cost of maintenance of industrial schools is to be defrayed by the Commonwealth and it is expected that not only the Evening Industrial School but the Trade School for Girls will come under its provisions.

The percentage of this subsidy, if such a term is applicable, which Boston received in 1910, amounting to barely one-eighth of the whole, is out of all proportion not only to its contribution to the state tax, which amounts to nearly three-eighths, but also to its activities in the field of industrial education, which we have understood to be rather extensive.

May I ask your commission to consider whether by proper representations the State Board of Education might not be induced to extend the benefits of this subsidy to the Mechanic Arts High School, the cost of maintenance of which for the year 1909 was about one hundred thousand dollars.

The term "independent industrial school" in chapter 540 of the Acts of the year 1909 would seem to be applicable under a broad interpretation of the words to this particular school, and if such a construction

should be accepted by the State Board of Education the city would receive next year more than fifty thousand dollars.

It would seem that this question might properly be considered as a part of the study which your commission is making of the school system of Boston in its economic and financial aspects.

Awaiting your views, I remain,

Yours very truly,

JOHN F. FITZGERALD, *Mayor.*

APPENDIX III.

REPORT ON SALARIES OF ELEMENTARY
SCHOOL TEACHERS.

April 8, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,—On April 1, 1911, the Finance Commission received a communication from your Honor asking the reasons for the commission's recommendation to the Legislature of an increase in the amount the Boston School Committee is now authorized to appropriate so as to make the appropriations sufficient to permit an increase in the salaries of teachers; and also inquiring as to why the commission has not yet reported the results of its investigation of the management of the public schools.

The commission respectfully submits herewith the information desired.

I. THE PROPOSED INCREASE OF TEACHERS'
SALARIES.

The commission on March 29, 1911, sent a communication to the Legislative Committee on Cities recommending legislation which would increase the appropriation for the support of the Boston public schools in the sum of ten cents for the first year, and for each succeeding year in the sum of twenty cents, upon each one thousand dollars of valuation on which the appropriations are based, for the purpose of enabling the School Committee to provide more adequate salaries for teachers in the elementary and certain other grades of the public schools.

Before this communication was sent the commission had been informed that your Honor had agreed with

the School Committee that some means ought to be provided for increasing salaries of teachers in elementary grades; that a plan had received favorable consideration, which would leave the School Committee free in the present year to use the \$67,000, which otherwise would have been needed to pay its water tax (but which your Honor is said to have agreed to remit), for the increase of elementary teachers' salaries, the installation of water-saving devices in the schools, and the repair and alteration of school buildings — \$40,000, \$17,000 and \$10,000, respectively, to be used for these purposes; and that it was also agreed that further increases in teachers' salaries should be made if the present Legislature should authorize an increase in the amount the School Committee is permitted to appropriate for the support of the schools.

The commission had also learned before it sent its communication to the legislative committee that the School Committee, which is obviously the best judge of the adequacy of teachers' salaries, had decided to favor an increase for next year of ten cents, and for each year thereafter twenty cents, on each one thousand dollars of valuation upon which the appropriations are based, the object being to devote the greater part of the additional appropriation to an increase of the salaries of the teachers in the elementary schools from the present minimum of \$552 a year and maximum of \$936 a year to a minimum of \$600 and a maximum of \$1,032, and, if it should appear that the public interests require it, to make corresponding increases in the salaries of other and smaller groups of teachers so as to preserve just proportions in the entire schedule.

The commission attached great weight to this decision of the School Committee, knowing that it had given the subject long and careful study, and had considered the financial condition of the city, the justice of the teachers' demands, and the interests of the children in the public schools. Independently of the decision of the School Committee, the commission would have

been strongly inclined to favor the increase as a result of its own investigations of the school system.

REASONS FOR THE COMMISSION'S RECOMMENDATION.

1. *Existing Inequalities in Compensation.*

The commission has long been aware of the inequality in the compensation of the large number of elementary school teachers, who are paid a minimum of \$552 and a maximum of \$936, and that of other employees of the city, including those in the Suffolk County departments, an inequality not fully appreciated except by those familiar with the actual conditions of the municipal service. The service that a faithful and efficient school teacher renders to the community is of the greatest importance, yet it would seem that no other class in the city's employ is so poorly paid, considering the value of the services performed.

It is not necessary to make a detailed comparison of the salaries of men in various branches of the city's service and the salaries of its women school teachers; it is sufficient for the present to note that gross inequalities exist. A comparison of the salaries of the women teachers who receive a minimum of \$552 and a maximum of \$936, and who constitute about two-thirds of the entire teaching force, and the salaries of women in other branches of the public service is more pertinent. Here the inequality is substantial. Of the 162 women clerks rated as clerks, clerical assistants, recorders, comparers, pagers, etc., in various city and county departments, only eleven receive less than \$600 a year. One of the eleven receives \$500, three, \$520 each, and one, \$550; the other six receive \$580, or \$28 more than the minimum (\$552) paid to the school teachers in question. The other 151 women clerks receive between \$600 and \$1,500, the highest pay being \$564 more than the maximum pay of the teachers after eight years of service. Forty-seven of the women clerks receive more than the maximum paid to school teachers, and

six others receive an amount equal to the teachers' maximum. A number of those rated as clerks are engaged in the simplest kind of work, such as copying, and some of these copyists receive between \$1,000 and \$1,200 a year, the latter figure being \$264 more than the teachers' maximum.

Of the thirty-six women rated as stenographers, there are four court stenographers who receive \$2,500 a year each, but the salaries of these four highly skilled stenographers do not afford a just basis of comparison with the salaries of the school teachers in question. Of the other thirty-two stenographers, one receives \$364 a year, one, \$520, and thirty receive more than the teachers' minimum of \$552, the payments ranging between \$580 and \$1,500, the lowest being \$28 above the minimum and the highest \$564 above the maximum of the teachers.

Of the eight women employed as secretaries or assistants, one receives \$1,740, two others over \$1,000 and the rest receive less than \$1,000 a year. None, however, receive less than \$700 a year, or \$148 more than the school teachers' minimum.

The five women rated as bookkeepers receive from \$780 to \$1,560 a year, all being above the teachers' minimum, and three above the teachers' maximum.

The twenty-four women rated as printers, including compositors, copyholders, operators, proofreaders and linotype operators, receive compensation ranging from \$955 to \$1,300 a year, the minimum and maximum being greater by \$403 and \$364, respectively, than the compensation of the school teachers. Eighteen of the twenty-four printers receive more than the teachers' maximum.

The eight women rated as visitors receive from \$750 to \$1,100 a year, the lowest being \$198 above the minimum, and the highest \$164 above the maximum of the school teachers. Four of the eight visitors receive more than the teachers' maximum.

The foregoing shows inequalities indefensible from

any just point of view. The commission believes that if the value of the service rendered should be made the standard by which to fix compensation, as it ought to be, the salaries of the teachers would be increased and that of many employees of the city would be reduced. The commission does not base its recommendation for an increase in the school teachers' pay upon the fact that other employees of the city whose services are less valuable receive greater compensation, nor upon the fact that the salary schedule, fixing the teachers' pay at a minimum of \$552, with a maximum of \$936 after eight years' service, was established in 1896 and has since been maintained without change, though the cost of living has greatly increased meanwhile, but it makes its recommendation upon the ground that the school teachers, under the conditions confronting them to-day, dealing as they do with large and widely varying classes of children, and performing a task which makes large drafts upon their nervous energy, render a service to the community of greater value than is represented by the purchasing power of the money they receive. In arriving at this conclusion due allowance has been made both for the smaller number of days of actual attendance at the schools as compared with the number of working days of other city employees, and for the time necessarily devoted by the teachers to school work and study after school hours, in the holidays and during vacation time.

2. *The City's Ability to Pay the Increased Salaries.*

Believing that justice requires the increase, the commission thinks it should be given even though it should necessitate an increase in the tax rate. But if economy is practised the tax rate need not be increased. The total amount required to meet the increase can easily be saved if the following suggestions are adopted:

A. *Dispense with all Superfluous Employees.*—This recommendation does not mean that day laborers of long service, who are incapacitated by age, should be

removed. The expense due to their retention can be gradually reduced by declining to fill vacancies resulting from natural causes.

B. Reduce the salaries of the city's clerks and employees above the grade of clerks to a basis nearer the level of the compensation paid by the state.

As shown in the commission's last annual report to the General Court, these salaries are 50 per cent higher on the average than the state pays for similar service.

C. Gradually reduce the size of the city's maintenance forces in the Department of Public Works and extend the scope of the contract work correspondingly.

3. *Possible Economies in the School Expenditures.*

Can the Schoolhouse and School Departments by the practice of economy save enough to meet the proposed increase in teachers' salaries without increasing the appropriations now authorized by law? If they can the request for authority to increase the appropriations should not be granted.

A. *The Schoolhouse Department.*

Under the new system of erecting schoolhouses, a considerable amount of the initial expense formerly incurred in using the method of first-class construction, so called, is saved; and if the present system is maintained considerable sums will be saved hereafter, unless the new system shall prove to be more expensive than the former system as to the repairs subsequently required. Economies may be effected also if public competition for contracts for repairs and alterations of school buildings, for even comparatively small amounts, is substituted for the present method of awarding such contracts. The report of the expert employed by the commission shows that a considerable number of these smaller contracts were let last year without public advertisement for bids. It is possible, also, that other economies can be effected by the Schoolhouse Department, but the commission is not yet prepared to speak definitely upon

this subject. If these various economies are effected the appropriations, and the tax rate to a corresponding degree, can be reduced.

Yet none of the economies now being effected by the Schoolhouse Department, or that may be effected hereafter, can be utilized to create a fund out of which school teachers' salaries may be increased, as under the statute (1909, chapter 388, section 1) the School Committee must appropriate solely for new school buildings, lands, yards and furnishings, an amount not less than 40 cents on each \$1,000 of the valuation upon which appropriations are based, and must also appropriate solely for repairs and alterations of school buildings an amount not less than 25 cents on each \$1,000 of such valuation; and, in the opinion of the commission, none of the money appropriated for such purposes can lawfully be used for any other purpose.

B. *The School Department.*

Discontinuance of Certain Branches of Instruction.

If the public should demand the abolition of kindergarten, cooking, sewing, drawing and music classes, physical education and manual training, a considerable sum would be available for the increase of the salaries of the remaining teachers. But the commission has seen no evidence of any general demand for the abolition of any of these courses; on the contrary, each is stoutly defended by numerous advocates. Moreover, the School Committee has no present intention of abandoning any of these courses. The commission, therefore, regards the possibility of thus saving money and applying it to the proposed increase of teachers' salaries as too remote to be of any material value in connection with the question now under consideration.

Reduction in the Cost of Administration.

The School Committee spent last year \$3,995,237.66, exclusive of the cost of land and new buildings, repairs and alterations, rental of hired school accommodations,

and teachers' pensions. Wherever the phrase "total expenditures of the School Committee" is used hereinafter it means the \$3,995,237.66 above referred to.

Taking the cost of administration as fairly represented by the total payments to the various officers of the public schools, their assistants and the truant officers, it appears that the amount expended for this purpose last year was \$106,730.54, or 2.7 per cent of the total expenditures of the School Committee. This does not seem an unreasonable expenditure for administration and the commission doubts whether it can be reduced with justice to the administrative force or to the school system. Further investigation may possibly show ways of economizing with safety, but even in that event the total saving must necessarily be so small as to make it a negligible factor in the attempt to secure, within the present authorized school appropriations, the proposed increase of the salaries of a large number of elementary teachers.

Reduction in the Cost of Janitors' Service.

The amount spent last year for the salaries of janitors was \$253,270.94, or 6.3 per cent of the total expenditures of the School Committee. The payments to janitors are based upon rates for various kinds of service, under a schedule adopted in 1904 as the result of careful investigation by the School Committee. It does not give satisfaction to the janitors now, as they think the rates too low. Whenever it is revised it is more likely to be upward than downward. If any reduction should be made it would necessarily be so small as to furnish little aid in the plan to increase teachers' salaries. The commission believes that no attempt should be made to reduce it.

Reduction in the Cost of Physical Education.

The amount spent for this purpose last year was \$67,434.57, or 1.6 per cent of the total expenditures of the School Committee. As already stated, this course is not likely to be abandoned. Even if the School Com-

mittee should decide to discontinue this service, legislative authority for the discontinuance would have to be procured, as the service is required by chapter 295 of the Acts of 1907. While physical education remains a feature of public school instruction the entire amount authorized by law to be expended for the purpose (four cents on each one thousand dollars of valuation) will in all probability be expended. Moreover the commission is of the opinion that any saving in the cost of physical education could not lawfully be applied to the increase of teachers' salaries, as the statute directs that appropriations for physical education shall be made "solely" for that purpose.

Reduction in the Salaries and Expenses of School Nurses.

Last year there was expended for this purpose \$27,-220.06, or six-tenths of one per cent of the total expenditures of the School Committee. There seems to be no feasible way in which the School Committee can accomplish a reduction of its expense for this item. If the nurses should be transferred to the Health Department and the School Committee should retain its appropriating power undiminished, the money now utilized by the School Committee for the nurses' salaries and expenses would then be made available for increasing school teachers' salaries. But if the Legislature should authorize the transfer it would undoubtedly take from the School Committee the power given by chapter 357 of the Acts of 1907 to appropriate money for the nurses. Thus, the School Committee's fund would disappear and with it the possibility of saving. The commission, therefore, sees no opportunity in this quarter for providing a fund available for increasing school teachers' salaries.

Reduction in the Cost of Supplies and Incidentals, Including Text-Books.

The amount expended last year for this purpose was \$210,035.03, or 5.2 per cent of the total expenditures

of the School Committee. The expenditure for text-books was \$65,020.49. The amount which may be appropriated for these purposes is not fixed by law, but it is confined to narrow limits by other virtually fixed charges against the general appropriation for the support of schools, such as officers', teachers', and janitors' salaries, and fuel and light. The necessity for economy in the purchase of supplies and incidentals has been so great at times as to cause the furnishing of a poor quality of paper to the pupils in the schools, and to make the janitors use brooms and brushes after they had become practically useless. The school supplies, such as paper, blotters, ink, pens, pencils, etc., have been purchased under a system which the expert employed by the commission believes could be improved in some particulars; but he heartily commends the care exercised by the purchasing agent and states that the prices have been astonishingly low. The commission believes that the average annual expenditure for supplies and incidentals should be increased rather than diminished, and that no reduction in quantity or quality should be made in order to provide a fund for the increase of teachers' salaries.

The commission, at its public hearings, heard complaints to the effect that text-books were sometimes retained in use for so long a period that they had become practically useless. Some much worn and dilapidated books were put in evidence at one of the hearings. The commission believes that enforced economy has in some instances prolonged the use of text-books to an extent that endangered, if it did not actually impair, the efficiency of the instruction.

The text-books have been bought by the purchasing agent at the lowest prices he could obtain and he has been successful in securing liberal discounts on old books which have been returned. The commission's opinion is that the purchasing agent has obtained the best results possible under the system in vogue as to the purchase of text-books; and it has no doubt that

he has at all times performed his duties faithfully, honestly, and with strict regard for economy. Means of improving the system have been suggested, and the consideration of such means is desirable, as Boston pays more for text-books than some other cities which, unlike Boston, purchase on long term contracts. The amount annually expended for text-books is, however, so small that any possible saving effected would not go far enough towards meeting the proposed increase of teachers' salaries to warrant a reduction in the extra allowance asked for in the pending legislation.

Reduction in the Cost of Fuel and Light.

The amount spent for these purposes last year was \$157,446.77, or 3.9 per cent of the total expenditures of the School Committee. The possibilities of economy in these particulars are limited to a narrow compass.

The School Committee purchases its coal on contracts, awarded after public advertisement for bids. The contracts for bituminous coal provide for a chemical analysis and for the payment of premiums or the deduction of penalties according as the quality is found by the chemist to be above or below the standard defined in the contract. The contracts for anthracite coal do not provide for chemical analysis, but do require the dealer to specify in his proposal the mines from which the coal is to be taken, and the proposal is made a part of the contract. The expert employed by the commission has examined the coal contracts and the expenditures thereunder for the four years, 1906-09, inclusive, and he states that the results indicate that the city's financial interest has been well protected.

The School Committee has made numerous efforts to procure lower rates from the electric light company, but so far without success. Unless the electric light company reduces its rates or the School Committee provides a cheaper lighting system of its own but little economy can be effected in the cost of lighting.

The commission believes that economies in fuel and

light are speculative and cannot be counted upon to add to the fund available for the payment of teachers' salaries.

The Need of Additional Appropriations.

The total expenditures of the School Committee last year were \$3,995,237.66. Of this amount \$3,173,099.75, or almost four-fifths of the whole, was expended for teachers' salaries, and \$822,137.91, or slightly above one-fifth, for other purposes. It would be impossible to economize sufficiently in the branches which consume one-fifth of the total expenditures to enable the School Committee to increase substantially teachers' salaries, which now consume four-fifths of the total expenditures. Nor could the proposed increase in teachers' salaries be met by the additional amounts made available by increased valuations under the present statutory limitations upon the appropriating power, as such additional amounts will be needed to meet the automatic annual increases under the existing minimum and maximum schedule, the demand for a more liberal allowance of supplies, and the increased cost of other branches of school administration due to the increase in the number of pupils. There is no practical way of effecting the proposed increases except through a grant of legislative authority to increase the amounts which may now be appropriated under the statutes.

SUMMARY OF CONCLUSIONS.

1. That the teachers are entitled, on account of the value of their services, to increased compensation.
2. That the proposed increase of teachers' salaries cannot be effected by reductions in the expenditures of the School Committee without detriment to the school system as a whole.
3. That the only practical way to effect the increase is by securing legislative authority to add to the School Committee appropriations next year an amount equal

to 10 cents upon each \$1,000 of the valuations upon which appropriations are based, and 20 cents for the succeeding years.

4. That the increase in the appropriations need not cause any increase in the tax rate if economies in other departments are effected, as previously herein suggested.

II. THE COMMISSION'S DELAY IN FILING A REPORT UPON ITS INVESTIGATION OF THE SCHOOLS.

The request for an investigation was made on March 17, 1910. The reason for delay will be apparent to your Honor upon an examination of the long list of questions referring to other matters submitted to the commission by your Honor after the date of the request for the school investigation. Assuming that your Honor may have overlooked this list, or may have failed to consider the time necessary to be devoted to the important questions thus subsequently referred, the commission annexes hereto the list with a request that your Honor note that reports have already been submitted upon twenty of the twenty-eight questions thus referred and that the time spent in this manner has excluded the possibility of completing a task of such magnitude as the investigation of the public schools.

Respectfully submitted,

THE FINANCE COMMISSION,

by JOHN A. SULLIVAN,

Chairman.

REQUESTS FOR INVESTIGATION BY THE MAYOR OF BOSTON.

DATE OF REQUEST.	Date of Report or Communication.	Subject.
March 17, 1910.	Oct. 7, 1911.	Methods of School and Schoolhouse Departments.
May 25, 1910.	July 14, 1910.	Certain charges against two officials of Health Department.
Aug. 17, 1910.	March 22, 1911.	High pressure water service.
Aug. 17, 1910.	March 22, 1911.	Laws relating to wharf construction.
Aug. 17, 1910.	March 22, 1911.	Creation of reserve fire signal station.
Aug. 17, 1910.	March 22, 1911.	Adequacy of present building laws.
Aug. 17, 1910.	March 22, 1911.	Increase in membership of Fire Department.
Aug. 17, 1910.	Sept. 15, 1910.	Reasonableness of the charges of the architect for services on reconstruction of Curtis Hall.
Sept. 3, 1910.	Sept. 15, 1910.	Proposals for sites for a new schoolhouse in the Lewis District.
Sept. 17, 1910.	Feb. 16, 1911.	Economic and social problems involved in report of the chairman of the Consumptives' Hospital Department.
Sept. 24, 1910.	Feb. 1, 1911.	Transfer to the state of Suffolk School for Boys.
Sept. 24, 1910.	Feb. 25, 1911.	Transfer to the state of Boston Normal School.
Sept. 24, 1910.	Feb. 16, 1911.	Transfer to the state of Consumptives' Hospital Department.
Sept. 24, 1910.	Sept. 28, 1910.	Prosecution of a former deputy collector for alleged defalcation.
Sept. 28, 1910.	Nov. 19, 1910.	Relieving Boston of part of cost of water bridges in or about Boston.
Oct. 3, 1910.	Oct. 4, 1910.	Devising a means for taxing the unearned increment of land.
Oct. 11, 1910.	Dec. 8, 1910.	Construction of part of Washington street, West Roxbury, as a state highway.
Nov. 9, 1910.	.....	Construction of artificial stone sidewalks in Boston.
Nov. 29, 1910.	March 1, 1911.	Contribution of state to support of Mechanic Arts High School.
Nov. 29, 1910.	May 10, 1911.	Fixing of a schedule of fees for permits for erecting signs, etc., in and over the streets of the City of Boston.
Jan. 18, 1911.	.....	Investigation of the flour contract of the Penal Institutions Department in particular, and in general the substitution of goods of lower grade than the standard.
Jan. 28, 1911.	Oct. 7, 1911.	Proposed increase of salary of George S. Burgess of the School Department.
Feb. 9, 1911.	March 23, 1911.	Investigation of the nonpayment of taxes for the years 1908 and 1909 by the Quincy A. Shaw estate.
Feb. 16, 1911.	.....	Reduction in schedule of charges for electric lighting to the City of Boston by the Edison Electric Illuminating Company.

REQUESTS FOR INVESTIGATION BY THE MAYOR OF BOSTON.—*Concluded.*

DATE OF REQUEST.	Date of Report or Communication.	Subject.
March 27, 1911.	April 15, 1911.	Certain transactions relating to the transfer of the property of the Museum of Fine Arts to the Copley Square Trust.
March 29, 1911.	March 31, 1911.	Further use of schoolhouses.
April 1, 1911.	.....	Alleged combination among manufacturers to raise prices above their normal level.
April 1, 1911.	April 8, 1911.	Increase in the salaries of elementary school teachers.

APPENDIX IV.

TWO COMMUNICATIONS ON THE EXTENDED USE OF SCHOOL BUILDINGS ISSUED AFTER THE REPORT ON THE BOSTON SCHOOL SYSTEM.

Boston, October 18, 1911.

HON. JOHN F. FITZGERALD, *Mayor*:

SIR,—Your Honor's communication to the Finance Commission under date of October 10, 1911, calls for a statement by the commission as to whether it agrees with the conclusion of the School Committee that "however favorably inclined the School Committee might be to more extended use of school buildings it is unable to proceed further than it does at present in the direction suggested without receiving additional money from other sources than those now available for school purposes."

In the report upon the public schools submitted by the Finance Commission under date of October 7, 1911, the commission said (page 60): "There should be an even more extended use of the school buildings as soon as the necessary funds can be provided"; and on page 187 it recommended "That the existing policy of permitting the use of school buildings for other than school purposes be extended as funds become available." Much of the report is devoted to an analysis of school expenditures, which, if studied, could lead to no other conclusion than that the authorized school appropriations are none too large, even though strictly limited to school purposes, and that it would be dangerous for the School Committee to assume the extra expense of heating, lighting and cleaning school buildings, together with other expenses resulting from the use of such buildings outside of

school hours for other than school purposes. It might happen in a particular year that the School Committee could provide the money necessary for the purpose in question, but this could not be known at the beginning of the year. Thus, at the beginning of the fiscal year 1910-11 the School Committee would doubtless have been unwilling to pledge in advance the money requested for such extra use of school buildings, though at the end of the year there was an unexpended balance of \$35,093.17 to the credit of the schools which, under the law, was reappropriated for the support of the schools in the following year. This balance would not have existed, however, if it had not been for the wholly unexpected reduction in the number of pupils in the day elementary schools; and the School Committee would not have been justified in appropriating money at the beginning of the last year for the extended use of school buildings, as it could not assume at that time that the money would not be needed for the support of the schools, the maintenance of which is a duty imposed by statute upon the School Committee.

In order to frame an intelligent program which can be carried out without danger of interruption due to shortage of funds, it must be known at the beginning of the year how much money will be available for the use of school buildings for other than school purposes. The Finance Commission believes that a definite policy for such use of the school buildings should be established, that a program should be arranged at the beginning of each year, and that an appropriation should be made for that purpose.

The commission believes, however, that under existing law no satisfactory plan for the extended use of school buildings can be worked out. The present difficulties seem to the commission to be as follows:

1. The School Committee has no legal authority to appropriate any of the money now authorized for school purposes for any other purpose, however meritorious. Therefore a considerable part of the program for the

extended use of school buildings would have to be provided for out of funds other than those which the statutes now authorize the School Committee to appropriate, although other parts of the program might be carried out under the existing powers of the School Committee. Moreover, as already stated, the School Committee cannot, out of the appropriations now authorized by law, set apart a sum for the use of school buildings for other than school purposes without taking the risk of leaving insufficient money for the purpose for which school appropriations are authorized, to wit: the education of the pupils in the public schools.

2. For some of the objects embraced in the program for the extended use of school buildings the City Council may lawfully appropriate money, but for such other parts of the program as are included within the meaning of the term — school purposes — the Council could not appropriate money.

3. The program as a whole could not be carried out either by the School Committee or by a department created by ordinance; and it would be unwise to permit part of the program to be carried out by the School Committee and another part by a department created by ordinance and independent of the School Committee.

4. No department can be created by ordinance which would take from the School Committee any part of its jurisdiction over school buildings, as the School Committee, under the statutes, has sole charge and custody of such buildings, and such an ordinance would therefore be in conflict with the statute and consequently void. The ordinance which was submitted by your Honor to the City Council under date of October 9, 1911, and which is now pending in the City Council, would be of no effect if passed, as it would be in conflict with the statute. (See opinion of the Corporation Counsel, June 27, 1911, City Council Minutes of 1911, page 257.)

The commission believes that the only practical way to insure the success of the experiment involved in the

extended use of school buildings would be to secure the passage of an act by the incoming Legislature to authorize the School Committee to appropriate not exceeding two cents upon each one thousand dollars of the valuation on which school appropriations are based; the sum so appropriated to be used for the extended use of school buildings under rules and regulations established by the School Committee. It would be unwise, even if it could be accomplished legally, to have a divided jurisdiction over school buildings, the School Committee exercising its jurisdiction over such buildings during school hours and another department exercising similar jurisdiction for parts of days and during vacation time when the schools were not in session.

An act passed by this year's Legislature (chapter 367 of the Acts of 1911) authorizes the School Committee of any city or town which accepts the provisions of the act to grant the temporary use of halls in school buildings upon such terms and conditions and for such public or educational purposes (for which no admission fee is charged) as the School Committee may deem wise, provided that such use shall not in any way interfere or be inconsistent with the use of the halls for school purposes.

This act will become effective in the City of Boston when accepted by a two-thirds vote of the City Council, if approved by the Mayor. The acceptance of this act by the City Council would settle the question of the right of the School Committee to grant the use of school halls for public purposes not educational in their nature, but it will be necessary to get additional legislative authority to appropriate the money needed for such additional uses of school buildings.

The problem of providing money for the extended use of school buildings has been considered by the Cambridge School Committee, which recently declined to appropriate money out of the school funds for such purposes on the ground that it had not legal authority to make such an appropriation. The new Cambridge

charter, which is to be submitted to the voters of that city at the state election in November next, contains a provision under which the School Committee is authorized to appropriate the money needed to pay the expenses of public meetings in the buildings and grounds under its control outside of school hours for adults as well as children. (Acts of 1911, chapter 531, section 20.) The commission believes this is the proper method of solving the problem of the extended use of school buildings.

The commission recommends:

1. That the Mayor petition the next Legislature for an act authorizing the School Committee to appropriate not exceeding two cents upon each one thousand dollars of valuation upon which appropriations are based, said sum to be used by the School Committee for the extended use of school buildings under rules and regulations to be established by the School Committee.

2. That the Mayor and City Council accept chapter 367 of the Acts of 1911, authorizing the School Committee to grant the temporary use of halls in school buildings for public or educational purposes.

Respectfully submitted,

THE FINANCE COMMISSION,
by JOHN A. SULLIVAN,
Chairman.

Boston, October 25, 1911.

HON. JOHN F. FITZGERALD, *Mayor:*

SIR,—The Finance Commission has received your Honor's communication, dated October 20, 1911, concerning the extended use of school buildings. In the report of the Finance Commission on the extended use of school buildings, dated October 18, 1911, the commission pointed out that the school funds could not lawfully be used for many of the purposes included in the program for the extended use of school buildings; that is, the program could not be carried out in its entirety by the School Committee under existing law.

This objection seems to the Finance Commission to be decisive of the questions raised in your Honor's communication; but, even if the school funds could lawfully be used to carry out the entire program for the extended use of school buildings, it would be dangerous for the School Committee to set aside for this purpose in the beginning of any year funds which before the end of the year might be needed for the more important duty which the law places upon the School Committee, namely, the education of the children in the public schools.

Moreover, the Finance Commission does not believe that any substantial saving could be effected if the number of pupils in the elementary schools should decrease hereafter. It is true that if the number of pupils in a particular school district should be largely reduced, a saving could be effected in that district by reducing the number of teachers and the quantity of books and supplies. But no saving would be made even in that district in the fixed charges, such as the cost of administration and supervision, fuel, light and janitor's service. The decrease in school population, however, if any occurs hereafter, will probably be fairly uniform throughout the various schools and classes in the city and, even though the quota of pupils per teacher may be reduced, the decrease in the school population would probably not be so great as to warrant any material reduction in the number of teachers; hence no substantial saving would be effected.

The commission, however, does not anticipate any decrease hereafter in the number of pupils in the public schools. In its report on the school system, dated October 7, 1911, page 85, the commission said:

The decrease of about $1\frac{1}{2}$ per cent in the number of elementary school pupils and of about $\frac{1}{2}$ of 1 per cent in the number of pupils in all schools furnishes no occasion for alarm; the falling off in all probability is only a temporary one, and in future years the normal increase of previous years may be expected.

The commission, in the course of its study, gave careful attention to the possible effect of parochial schools upon the public school population, but omitted reference thereto, as it felt that the subject of its report was the public schools and not private schools. During the commission's study last summer the figures showed an apparent falling off in the parochial school population very similar to that in the public schools. Information which has since been received, as the result of a recent conference between representatives of the public and the parochial schools, shows, however, that there was an increase last year of 323 in the average number of pupils belonging in the parochial schools. The increase in the previous year was 198, and there was an average annual increase of 193 during the last five years. On October 1, 1910, there were 17,207 pupils enrolled in the Boston parochial schools; on October 1, 1911, 17,852 were enrolled, an increase of 645 in the total enrollment. The enrollment figures are always greater than the figures showing the average number of pupils belonging, as many pupils drop out after enrollment. It is evident, therefore, that the decrease of 1,934 pupils in the average number of pupils belonging in the elementary public schools is not accounted for by an increase in the same period of 645 pupils in the number enrolled in the parochial schools, or by the smaller increase in the average number belonging in the parochial schools.

The Finance Commission believes that its report of October 18, 1911, outlined a lawful and practical means of providing for the extended use of school buildings; that the way suggested by your Honor in your communication to the City Council, dated October 9, 1911, namely, to create by ordinance a new department to divide jurisdiction over school buildings with the School Committee, would be unlawful; and that your Honor's later suggestion contained in your communication to the Finance Commission, under date of October 20, 1911, is impracticable.

If the valuations of the city, and consequently the amounts available for the public schools, shall hereafter increase in greater proportion than the number of public school pupils, any surplus which would thus be created could not then lawfully be used for a large part of the program for the extended use of school buildings. Moreover, if such a surplus should be created, the commission believes that it should be used to provide more teachers, to reduce the number of pupils per teacher, and by this and other methods to give the children in the public schools a better education than they now receive.

Respectfully submitted,

THE FINANCE COMMISSION,

by JOHN A. SULLIVAN,

Chairman.

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